MicroMarketplace Begins on Page 64

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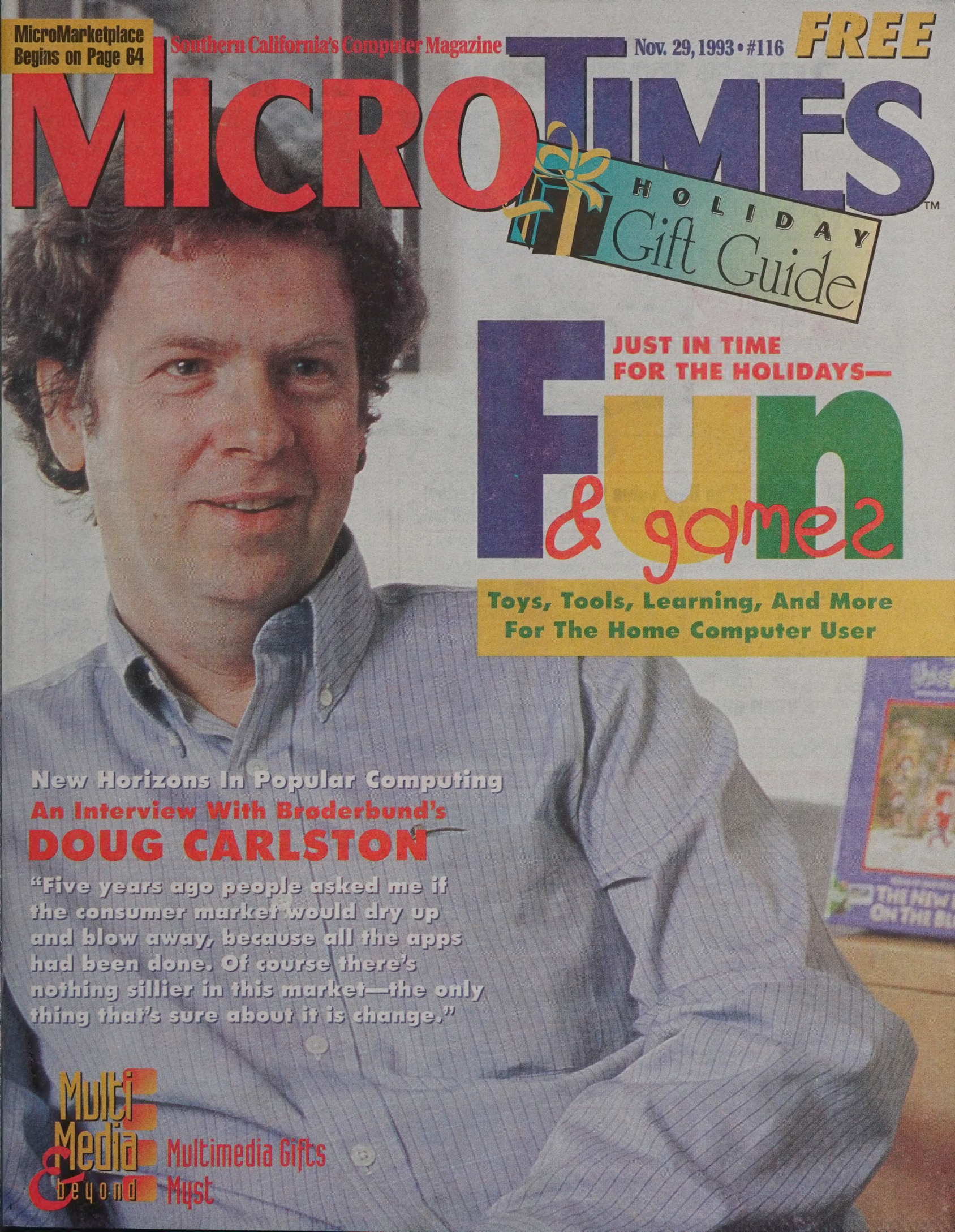

New Horizons In Popular Computing

An Interview With Broderbund's

DOUG CARLSTON

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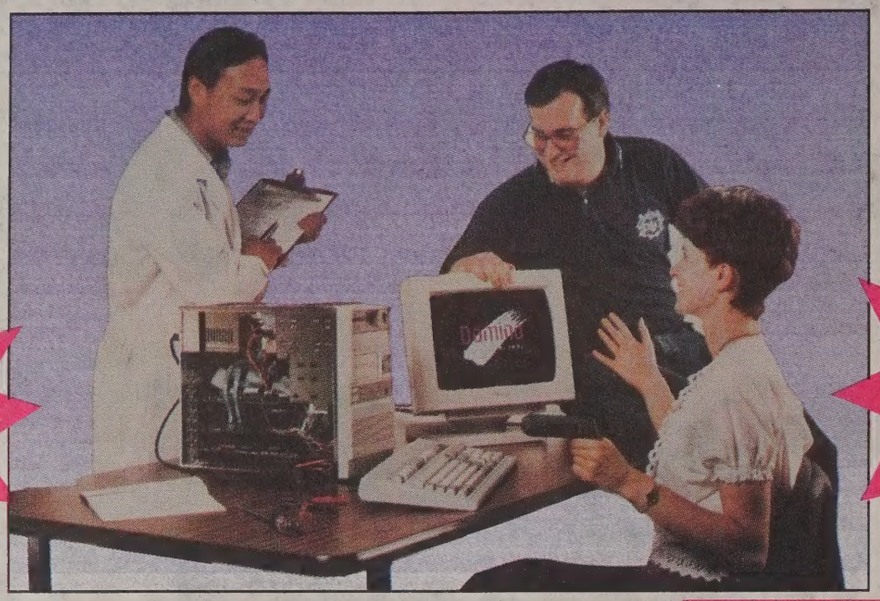

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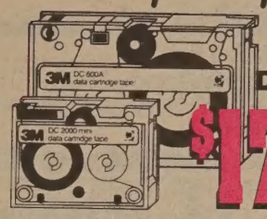

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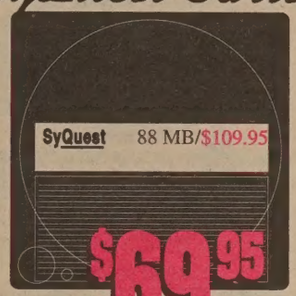

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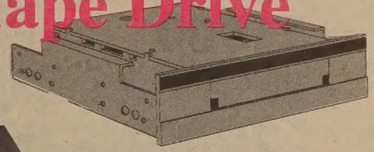

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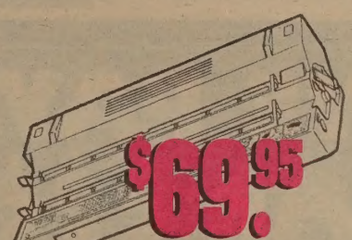

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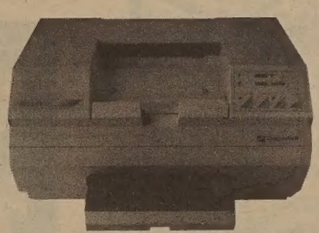

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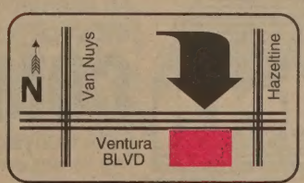

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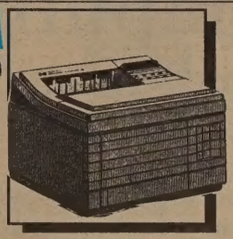

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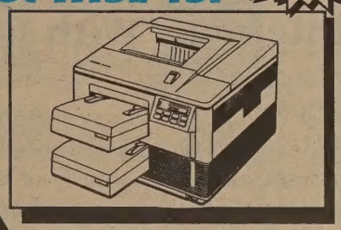

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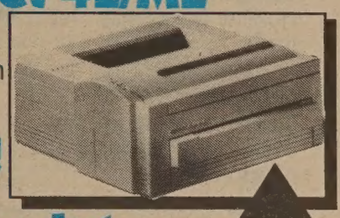

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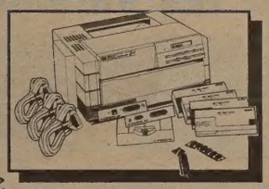

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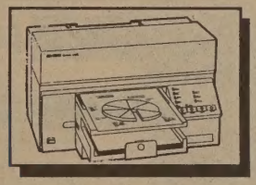

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A NOTE FROM THE EDITORS

Welcome to our first-ever Fun and Games/ Holiday Gift Guide issue, in which you will find a notable lack of business-oriented coverage and a lot of information about entertainment and other products for the home computer user. We hope you find this a useful resource as your holiday shopping looms.

Stay tuned for our upcoming annual Reseller Guide issue, coming to a distribution site near you in early December, to be followed by January's annual *MicroTimes* 100 issue.

Best wishes for joyous holidays from all of us at *MicroTimes*!

—ME

HELP US CHOOSE THE NEXT **MicroTimes 100!**

on page 12

In keeping with our time-honored tradition, our January issue will feature our annual list of leaders and unsung heroes who played a key role in the personal computer industry in 1993. Also in keeping with our time-honored tradition, we need your help. Tell us about interesting people you think we should include, and get the info to us by December 1.

COVER STORY

New Horizons In Popular Computing

An Interview With Brøderbund's Doug Carlston

By Mary Eisenhart
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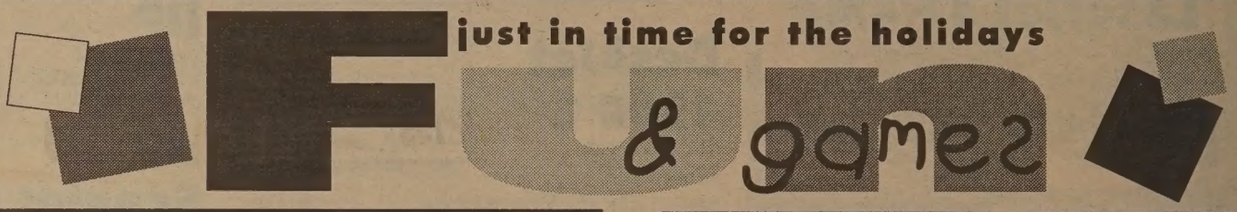
One of relatively few companies to consistently succeed in the consumer computing market, Brøderbund has prospered with an ever-expanding number of hit software titles from Print Shop to Kid Pix to the ongoing adventures of Carmen Sandiego. Since we last visited Brøderbund in 1985, the market, the challenges, and the opportunities have evolved considerably, and in this visit with Founder/CEO Doug Carlston, we catch up on the latest.



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Apple® Macintosh PowerBook™ 165
- Color video output!
- 16-level grayscale display
- 33-MHz 68030 processor
- Built-in support for a wide variety of monitors

4MB/80HD $1669 OR 4MB/80HD $1469*

*With purchase of $299 ClarisWorks 2.0 software. Prices shown after Apple Rebate

Apple Macintosh PowerBook™ 145B
- 25-MHz 68030 microprocessor
- Least expensive Apple notebook
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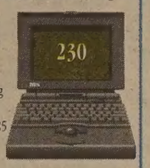
- Ergonomic design

4MB/80HD $1349 OR 4MB/80HD $1149*

*With purchase of $299 ClarisWorks 2.0 software. Prices shown after Apple Rebate

Apple Macintosh PowerBook Duo™ 230
- 33-MHz 68030 Microprocessor
- Works with an advanced desktop docking station
- Weighs only 5.25 pounds



4MB/120HD $1549 OR 4MB/120HD $1349*

*With purchase of $299 ClarisWorks 2.0 software. Prices shown after Apple Rebate

Apple Macintosh PowerBook™ 180
- Active matrix greyscale screen
- 33-MHz 68030 processor
- Color video output
- Built-in support for a wide variety of monitors

4MB/80HD $2099 OR 4MB/80HD $1899*

*With purchase of $299 ClarisWorks 2.0 software. Prices shown after Apple Rebate

Apple Macintosh PowerBook™ 180c
- Color active matrix display
- 33-MHz 68030 processor w/math coprocessor
- Most powerful member of the PowerBook family!

4MB/80HD $2449 OR 4MB/80HD $2249*

*With purchase of $299 ClarisWorks 2.0 software. Prices shown after Apple Rebate

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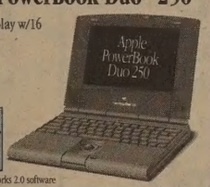
Apple Macintosh PowerBook Duo™ 250
- Backlit active matrix color display w/16 levels of gray
- 33MHz 68030 microprocessor
- 4mb expandable to 24mb
- Weighs only 4.2 lbs.



4MB/200HD $2499 4MB/200HD $2299*

*With purchase of $299 ClarisWorks 2.0 software

Apple Macintosh PowerBook Duo™ 270c
- Backlit active matrix color display (thousands of colors)
- 33MHz 68030 w/ coprocessor
- 4mb expandable to 32mb
- Weighs only 4.8 lbs.

4MB/240HD $2999 4MB/240HD $2799*

*With purchase of $299 ClarisWorks 2.0 software

Apple Newton™ Message Pad™
- 20-MHz processor
- 4MB ROM, 640k RAM
- Weighs less than a pound
- Features hand writing recognition and many built-in features

Com System* $699

*Does not include Modem

DESKTOP MODELS

Apple Macintosh Centris™ 660AV
- 25-MHz 68040 microprocessor
- 55-MHz Digital Signal Processor
- Innovative architecture that brings new capabilities in video, speech and telecommunications
- Keyboard & monitor not included

8/500 $2699 OR 8/500 $2279*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0

Apple Macintosh Quadra™ 840AV
- 40-MHz 68040 processor
- 66-MHz DSP
- Most powerful system Apple has ever built
- Keyboard & monitor not included

8/230 $3335 OR 8/230 $2915*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

Apple® Macintosh LCIII
- 25-MHz 68030 microprocessor
- Built-in support for a wide variety of monitors
- Keyboard is included!
- Monitor not included

4MB/80HD $799 OR 4MB/80HD $429*

*With purchase of $488 VividView monitor, and $299 ClarisWorks 2.0 software

Apple Macintosh IIsi
- 20-MHz 68030 microprocessor
- Built-in support for a wide variety of monitors
- Keyboard & monitor not included
- VERY LIMITED SUPPLY!

FACTORY REFURBISHED CLOSEOUT
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*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

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- 25-MHz 68LC040 microprocessor
- More than twice the performance of the Mac LC III!
- Built-in support for all Apple monitors

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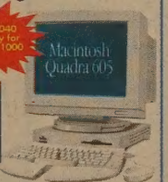
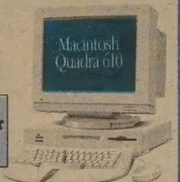


4MB/80HD $899 4MB/80HD $479*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

Apple® Macintosh Quadra™ 610
- 25-MHz 68040 microprocessor w/Math Coprocessor
- 1 slot for a 7" NuBus for PDS card
- On-board Ethernet
- 1-5.25" bay for internal CD-ROM drive or other storage device
- Built-in support for all Apple monitors

Limited Supply on Hand

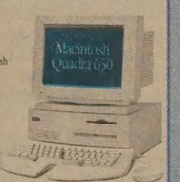


8MB/230HD $1699 8MB/230HD $1279*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

Apple® Macintosh Quadra™ 650
- 33-MHz 68040 microprocessor w/math coprocessor
- 8mb RAM expandable to 136mb
- 3 NuBus slots
- Built-in support for all Apple monitors
- More than 25% performance increase over Macintosh Quadra 610 & twice the memory expansion

Limited Supply on Hand



4MB/80HD $2569 4MB/80HD $2149*

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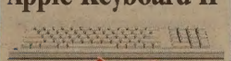
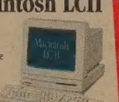
CLOSEOUTS

Apple Keyboard II



Great Buy!
FACTORY REFURBISHED $75

Apple Macintosh LCII
- 16-MHz 68030 microprocessor
- Built-in support for a wide variety of monitors
- Keyboard & monitor not included
- VERY LIMITED SUPPLY!



FACTORY CLOSEOUT
4/160 $749 OR 4/160 $329*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

Apple® Macintosh LCIII
- 25-MHz 68030 microprocessor
- Built-in support for a wide variety of monitors
- Keyboard is included!
- Monitor not included

FACTORY REFURBISHED
4MB/80HD $729 OR 4MB/80HD $359*

*With purchase of $488 VividView monitor, and $299 ClarisWorks 2.0 software

Apple Macintosh IIci
- 25-MHz 68030 microprocessor
- Math coprocessor
- 3 NuBus expansion slots
- Keyboard & monitor not included
- VERY LIMITED SUPPLY!

FACTORY REFURBISHED CLOSEOUT
5MB $999 OR 5MB $579*

*With purchase of $488 VividView, $159 Ext. Keyboard and $299 ClarisWorks 2.0 software

Apple Macintosh PowerBook™ 170
- 25-MHz 68030 microprocessor
- Math coprocessor
- Active matrix greyscale display
- VERY LIMITED SUPPLY!

FACTORY REFURBISHED CLOSEOUT
4MB/80HD $1599 OR 4MB/80HD $1399*

*With purchase of $299 ClarisWorks 2.0 software

MONITORS

Apple Basic Color 14" Monitor
- 640x480 resolution
- .39 dot pitch
- Limited Supply!

$175 SUPER BUY!

Apple Color Plus 14" Display
NEW!
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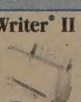
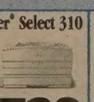


$279

Apple LaserWriter® Select 310
- 5 pages per minute
- 300dpi PostScript
- 13 built-in scalable PostScript fonts
- Works on both Macintosh & Windows platforms

Toner Extra



$729

SHARP JX9600ps Laser Printer
- 300dpi printer with 600dpi quality
- PostScript Capability

$899

Apple LaserWriter® Pro 600
- 600dpi resolution (with 8MB RAM)
- Adobe PostScript
- Limited Supply!

$200 LESS THAN COMPETITION!
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HEWLETT PACKARD HP Laserjet 4M

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$939*

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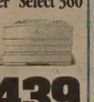

$1439

Apple Product	Rebate
Apple PowerBook 145b	$150
Apple PowerBook 165	$100
Apple PowerBook 165c	$100
Apple PowerBook 180	$200
Apple PowerBook 180c	$450
Apple PowerBook Duo 230 4/120	$350
Apple PowerBook Duo 230 4/160*	$500

Apple Product	Rebate
Apple Duo Dock	$150
Apple Duo Dock w/230MB HD	$300
Apple Mini Dock	$100
Apple Color Printer	$300
Macintosh 16" Color Display	$200

*Bundle with Duo Dock and Express Modem

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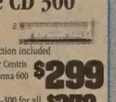

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Jonathan E. writes about world music for our sibling publication, *BAM.*

Woody Liswood is a writer and consultant based in Colorado.

Game czar **Mike Markowitz** is en route to a cool new job on the East Coast. Stay tuned for his future adventures.

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Douglas J. Nakakihara is an Amiga zealot who works as a CPA when he's not chasing down the latest cool technology.

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John Wolcott is a writer specializing in hardware and software documentation. He lives in Orange County.

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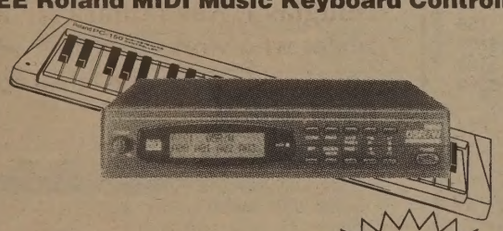

- 16 bit CD-quality sound
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- 16 part multitimbral
- Mac/IBM MIDI interface
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- Digital effects
- MIDI in/out/through
- 228 programs
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- 6 MEG waveform memory
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INCLUDES FREE MIDI KEYBOARD CONTROLLER!

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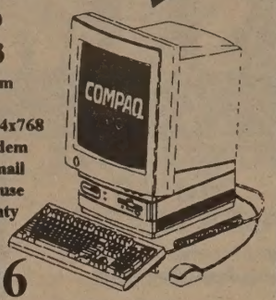

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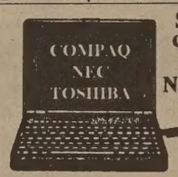

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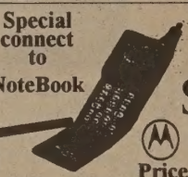

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Help Us Choose The Next MicroTimes ONE HUNDRED

In keeping with our time-honored tradition, our January issue will feature our annual list of leaders and unsung heroes who played a key role in the personal computer industry in 1993.

We'll have plenty of PR packets, annual reports, company backgrounders, and other or-thodox information sources to help us compile the list. But there are plenty of worthy accomplishments (to say nothing of interesting perspectives) that never show up in these sources, which is why we want to hear from you.

Tell us who you think made a difference in the industry in 1993, whether they're as well known as Bill Gates or as obscure as the garage entrepreneur down the street. Tell us *why* you think we should put them on the list, what particular accomplishment makes them noteworthy. And please tell us where and how we can contact your nominee for more information.

Nominations must be received by 9 am, Wednesday, December 1, 1993.

We will give ten free one-year subscriptions to *MicroTimes* to randomly drawn respondents to this survey, so if you'd like to enter the drawing, please be sure to include your name and address at the end of this form.

In order to be considered, your nomination must be received in our Pleasant Hill office by 9 am on Wednesday, December 1. Nominations may be sent by US Mail, fax, or electronic mail.

Thanks for your help!
—eds.

BALLOT

Name of your nominee: _____

Company affiliation: _____

Contact information (address, phone): _____

_____

Why should this person be on the list for 1993?

_____

_____

Your name, address, and phone number (optional—required for drawing):

_____

_____

Send your nominations to:

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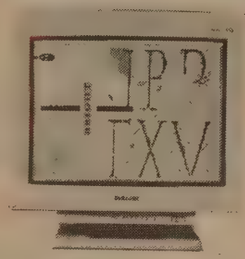

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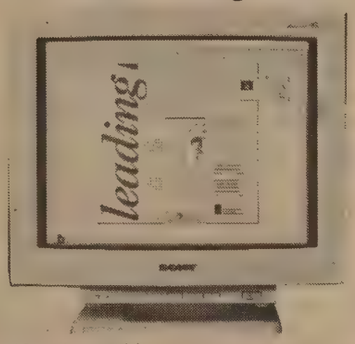

- Mac Compatible
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- Maximum resolution of 1280 x 1024 refresh (non-interlaced)
- Variable scan frequency of 30 to 71 kHz

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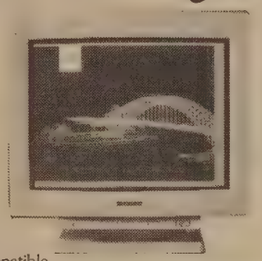

- Mac Compatible
- 20" Super Fine Pitch™ Multiscan® Trinitron® color graphics display monitor
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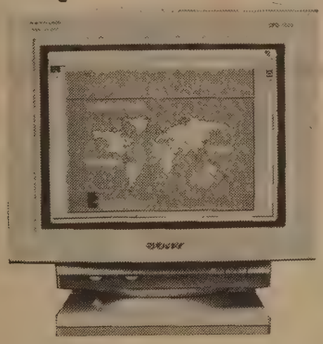

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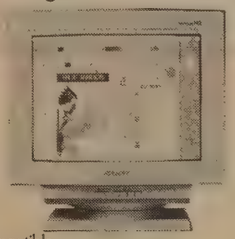

- Mac Compatible
- 14" Super Fine Pitch™ Multiscan® Trinitron® color display
- .25mm Aperture Grille pitch
- Maximum resolution of 1024 x 768 at 72 Hz refresh (non-interlaced)
- Varible scan frequency of 28 to 58kHz
- Overscanning for crisp edge-to-edge images
- Sony Display Memory System provides easy-to-use digital control of screen images
- Full compliance with Swedish MPR II standards for VLF/ELF magnetic and electrical emissions

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Sony CPD-1730

Trinitron Digital Control Color Monitor

- Mac Compatible
- 17" Super Fine Pitch™ Multiscan® Trinitron® color display
- .25mm Aperture Grille pitch
- Maximum resolution of 1024 x 768 at 72 Hz refresh (non-interlaced)
- Variable scan frequency of 28 to 59 kHz
- Overscanning for crisp edge-to-edge images
- Sony Display Memory System provides easy-to-use digital control of screen images
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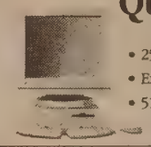

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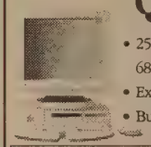

- 25MHz Motorola 68040 Processor
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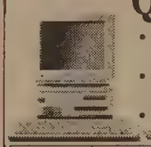

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- 25MHz G68040 25/55MHz DSP
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- Monitor & K.B. Not Included

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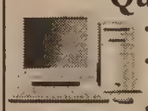

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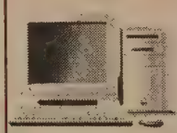

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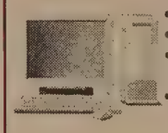

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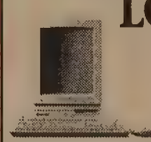

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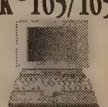

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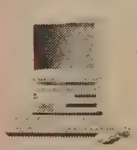

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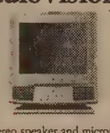

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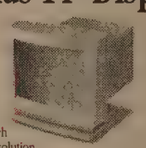

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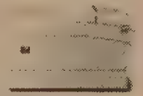

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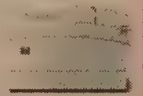

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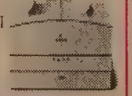

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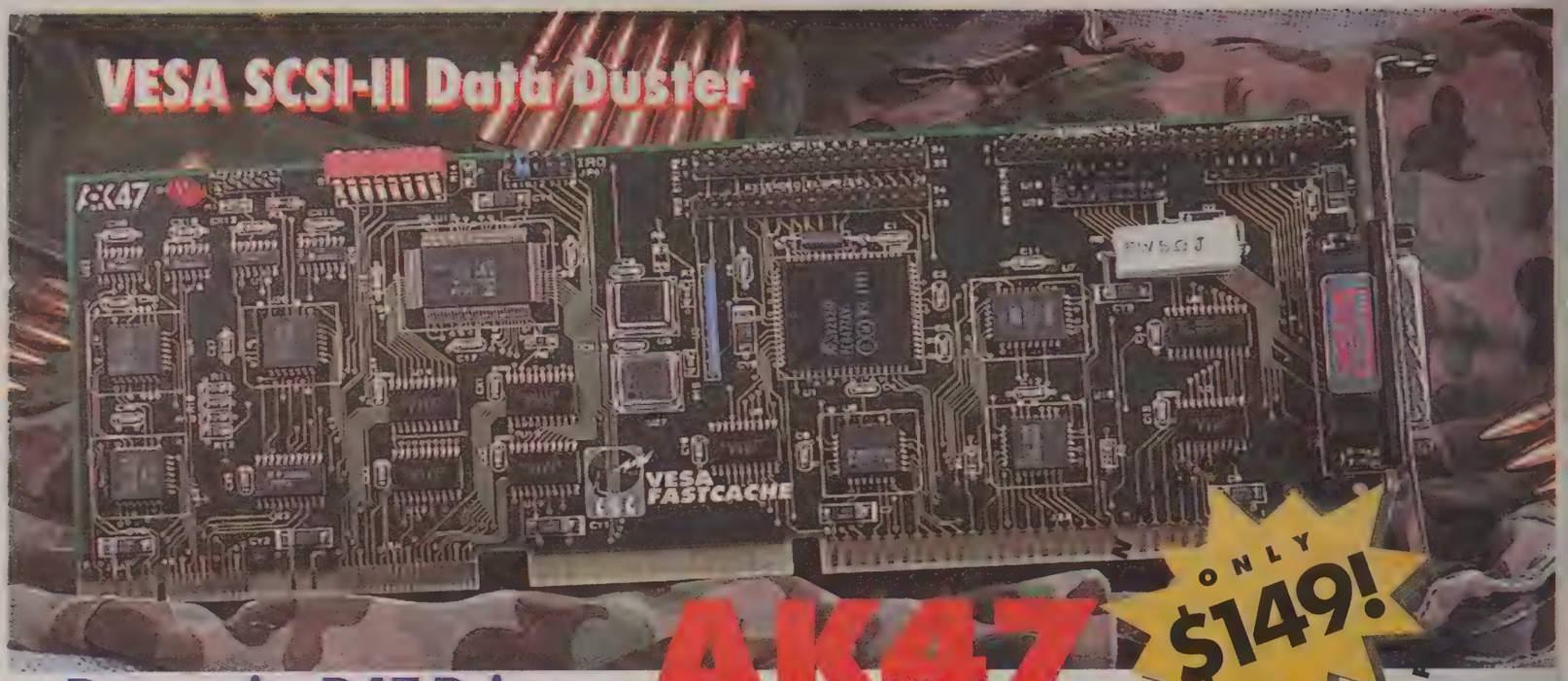

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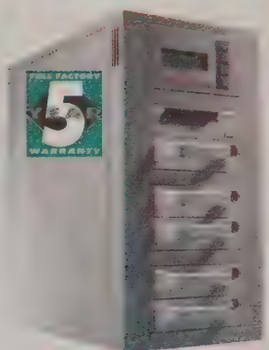

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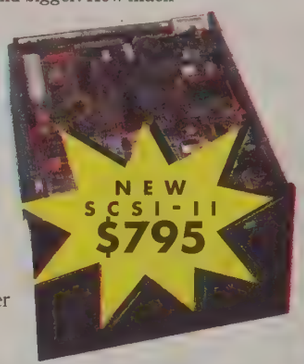

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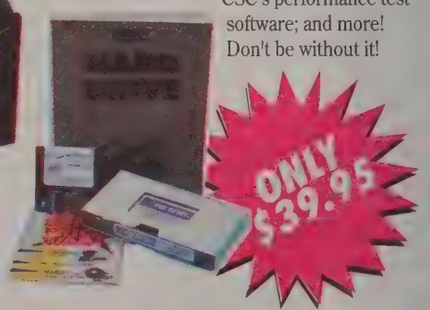

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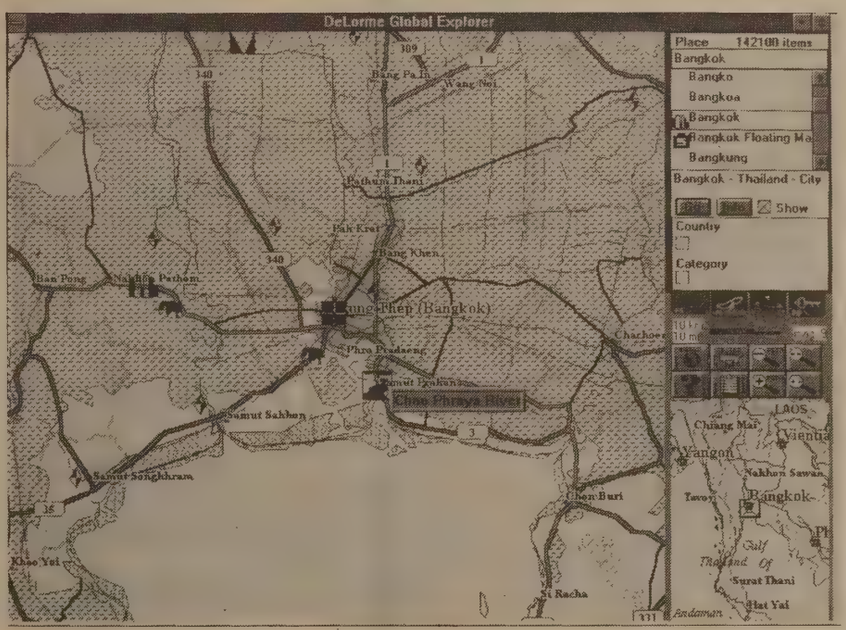
Exploring The Globe

Global Explorer Presents A World Of Detailed And Useful Maps

BY MIKE MARKOWITZ



I can still recall the sense of wonder I experienced as a child when I first realized that a map represented some part of the real world. For years I was an avid collector of maps. When computer-based atlases first appeared on CD-ROM, I was consistently disappointed. Compared to even the most basic paper-based maps, the computer-based maps in these packages were lacking in detail and conveyed very little information. Typically, these CDs were organized by country, so that micro-states like Andorra and Brunei received the same level of coverage as the United States, Russia, or China. Global Explorer, from a small map company in Maine, is the first CD-ROM-based atlas that I would consider to be more useful for the writer, journalist, or researcher than a top-of-the-line world atlas in book form. Travel agents, intelligence analysts, and geography teachers should find it particularly valuable.

Global Explorer is a straightforward Windows application. It installs about 3MB of files on your hard disk in order to access hundreds of megabytes of data stored on the CD. The screen is divided into a square map window of fixed size, a small locator map, a scrolling list box of geographic names with a text entry field you can use to search for any named location, and a set of simple control buttons. For example, the button with a picture of a key displays an intelligent map legend window—only the features appearing in the present map are shown. A button with a magnifying glass and a plus sign zooms in one level, and the button with a magnifying lens and two minus signs zooms out two levels. Beginning at Level 1, which is a world map, you can zoom in eleven levels, down to a scale of about two miles to the inch. If you printed out the entire database at this scale and pasted all the sheets together, you would have a map the size of a football field. Delorme has achieved this remarkable feat using proprietary data compression, drawing, and mapping algorithms developed over seven years at a cost of $10 million.

The maps include topographic contours, streams, roads, boundaries, and built-up areas. There are over 140,000 named locations. The map does not display latitude and longitude information, which makes it useless for most kinds of navigation. Optionally you can also display about fifty different topical icons for various "points of interest" including museums, parks, volcanoes, waterfalls, monuments, dams, bridges, religious, commercial, governmental and other buildings. At some scales, these icons severely clutter the map, so you can turn them off by clicking a check box.

A notable omission is an icon that locates the US Embassy, which is often the first thing a journalist wants to find when a world capital becomes a trouble spot. It would also be helpful if the publisher could find a way to let users annotate the map, or add their own information.

For about a hundred major urban areas, you can zoom in fifteen levels, down to fine-scaled street maps, although only the major avenues are named. Warsaw, Poland, counts as a major city, but the San Francisco Bay Area does not. I was stunned by the efficiency of the search algorithm—as soon as you start typing, the list jumps to the nearest alphabetical entry, and within a few seconds of hitting the return key you are looking at a correctly zoomed and cen-

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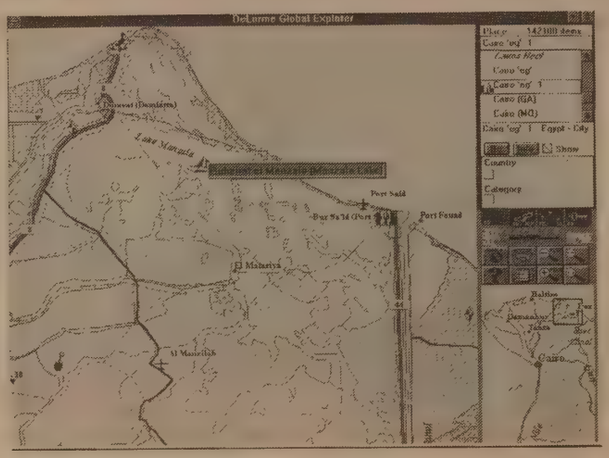

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tered view of the place you asked for. To find Auschwitz you need to know the Polish spelling, "Oswiecim." Dachau is shown only as a suburb of Munich, with no historical marker icon; presumably as the local realtors would prefer it.

I was pleased to see that Global Explorer's world map does not use the abominable Mercator projection, so that Greenland does not appear to be bigger than South America. Representation of the polar regions is seriously distorted on any world map; the program should have included separate polar projections for the Arctic and Antarctic, although these may only be useful to a handful of specialists. Documentation is limited to a slim reference booklet and standard Windows online Help.

By clicking on the "Clipboard" button you can copy the current map to the Windows clipboard (as a bitmap). I got excellent results printing maps in color from the graphic module of ClarisWorks for Windows, using an Epson LQ-2550 with a color ribbon. Using an HP LaserJet III the maps printed very quickly, but with the colors rendered as rather grainy and distracting dither patterns (A more patient and expert user could probably solve this problem by tweaking the printer option settings).

GLOBAL EXPLORER

is the first CD-ROM-based atlas that I would consider to be more useful for the writer, journalist, or researcher than a top-of-the-line world atlas in book form.

The most serious shortcoming of Global Explorer is inadequate representation of suburban areas. You can find Irvine, Scotland, but not Irvine, California. You can find the tiny town of Pleasant Hill, Louisiana, but not the booming metropolis of Pleasant Hill, California. Several Napa Valley wineries are noted as points of interest, but Cupertino is not even in the database (an omission that better be corrected if a Macintosh version is developed). This is a typical problem in modern urban geography. Geographic source data has not kept pace with the rapid growth of suburban areas all over the world. Trying to fit all the names of new towns onto regional maps is a cartographic nightmare. In fairness to Delorme, I should note that they also publish Street Atlas USA, one of the best-selling CD-ROMs in the country.

Global Explorer also includes a standard database of country information and statistics (the stuff you would find in the UN statistical abstracts or the CIA World Fact Book). The colored pictures of flags are particularly good. This sort of information needs to be updated periodically, so I hope Delorme will be able to offer annual new editions of this magnificent reference work. ■

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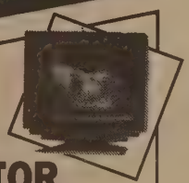

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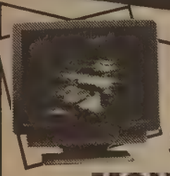

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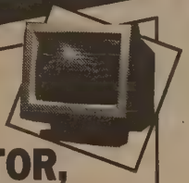

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HOLIDAY Gift Guide

PC Shareware:
Useful Tools For The Budget-Minded Home User
And You Can Try Before You Buy

BY LENNY BAILES

When I first got into the world of personal computing, industry pundits were laughing at IBM for its foolish attempt to "capture the home market" with the PC Jr.

In those days, you didn't find software stores on every corner. If you saw a PC in an office, it probably had a monochrome amber screen, and no hard disk. In 1993, you can get a PC with full color and sound, a large hard disk, and a super-fast processor for about the same price IBM charged, then, for its 64K, one-disk-drive Junior!

These days, industry analysts think that most businesspeople who require a PC in their office already have one. Eighty percent of those people leave their PC in the office when they go home at night. If software and clone vendors are going to survive, they need to to sell to that 80% of the public—the same "home market," reborn in the world of color, sound, and today's cheap, powerful hardware, offers the industry's most significant growth area.

When I got my first computer in 1986, I didn't have the money to go out and buy "state-of-the-art" software. Desktop publishing, graphic editing, and multimedia were unknown concepts in the world of MS-DOS. Yet, inside of a few months, I was writing, drawing pictures, and publishing a small newsletter, all on the IBM PC Jr.! Two valuable resources that made this possible: a local computer user group, and a list of online bulletin board systems.

These powerful computer allies are still available in 1993. A multitude of free and shareware programs are available to those who reach out to find them. If you're an adventurous pioneer-type, the best investment you can make in personal computing is to include a modem in your system. With your modem, you can download and evaluate all of the software packages discussed in this article for the cost of a few local telephone calls. (If you're slightly less adventurous, or don't have the time to navigate the BBS world, you can order the packages discussed here at $2–5 a disk from independent shareware vendors.)

An outlay of $10–25 can bring you a word processor, desktop publisher, painting program, or an educational toy for your children. Computing power that would cost $500–1000, if you sought it in retail stores, is available in the shareware world for less than a quarter of that price! You have a period of weeks or months to evaluate programs at your leisure. If you decide you like one of the programs you test, a registration fee of less than $100 gets you full documentation, technical support, and access to program enhancements.

Of course, not all shareware programs are nuggets in an untapped gold mine. Some are clunky, unsupported by their authors, or unpredictable. The Association of Shareware Professionals is an organization that exists to monitor program quality, protecting both authors and consumers. If the READ.ME file included with a package says the author is a member of ASP, you have several guarantees: You won't be getting a "crippled" package that deliberately disables program features; the package has been tested and meets certain standards of quality; the authors won't disappear on you when you need technical support.

The following are a few recommended examples of useful productivity applications that exist in the Shareware world:

NEOPAINT

I was astonished when I discovered this shareware paint program at a recent Cow Palace swapmeet. You can use Neopaint to design posters, build an ad, or as a sophisticated retouching tool for desktop publishing. It can handle a variety of bitmap-editing chores or be used simply for entertainment.

Neopaint approaches the functionality of a sophisticated, professional Macintosh desktop tool. It doesn't need Windows and it offers 256-color SuperVGA support. You'll find the same drawing and coloring tools here that would cost hundreds of dollars in a commercial PC package.

I found myself importing scanned CompuServe GIF images downloaded from bulletin boards and spending hours replacing colors, creating collages, and viewing multiple images at various resolutions. The toolbars and menus have an aesthetic Mac-like layout that makes the editing process intuitive. An included set of brush tools and color palettes allows you to retouch images or create new ones.

I've struggled with Mac packages like Photoshop and Studio 8, delving through reams of documentation and nested menus in order to find out how to do the same things that Neopaint does fairly intuitively. Neopaint has a full set of bezier drawing tools: rotating 2-D and 3-D wireframe polygons, a node editor, pencil, quill pen, and brushes. The brushes include watercolor, charcoal, crayon, smudge/smear, clone, blend, and fill tools.

continued on page 27

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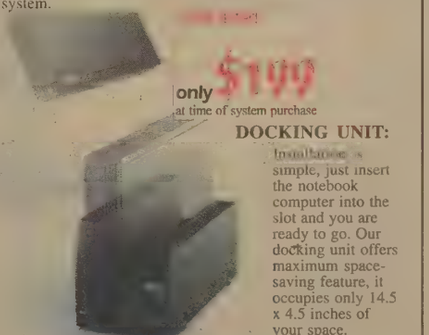

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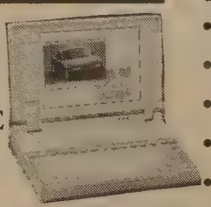

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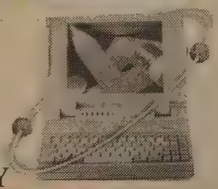

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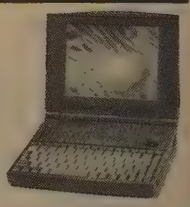

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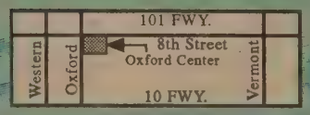

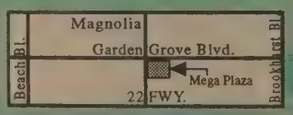

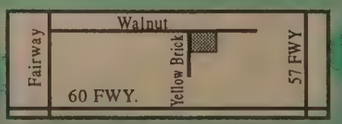

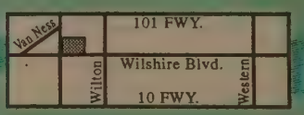

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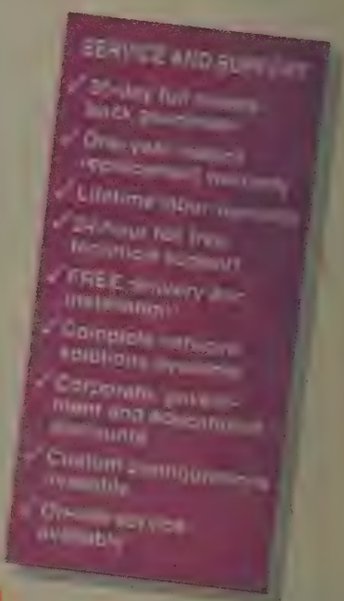

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continued from page 22

The brush effects come in handy for making a scanned photo resemble a watercolor or oil painting. I particularly liked the watercolor and charcoal brushes. They can be used equally well to lend character to simple geometric shapes, or to retouch a complicated photograph.

The fill tool allows pixel-by-pixel replacement, flood fills, adjustable gradients, and transparent cutouts. You can make your own stamp patterns for the brushes or work with an attractive set supplied with the package.

The drawing tools allow construction and rotation of 3-D cubes, pyramids, and polygons, or 2-D polygon/ellipse/circles. You can also skew/extrude geometric shapes and create special effects including color inversion, flip, border, lattice, pixelize, darken, lighten, and fade.

You can edit color at the pixel level with a 100-times zoom control, multiple document windows, and an adjustable pixel threshold. A choice of palettes lets you colorize images or convert them to grayscale for printing. (Over 300 printers are supported, from Epson/IBM dot matrix to HP LaserJet/Deskjet, and PostScript).

Images can be viewed in any screen resolution from Hercules two-color graphics to 1024 x 768 x 256-color SVGA. The number of documents open at once is limited only by the amount of expanded/extended memory or hard disk space available on your system. Neopaint will operate in less than 640K.

PC-WRITE, V. 4.10

PC-Write is the most famous, most sophisticated shareware word processor in the MS-DOS world. It now includes a graphic-editing subsystem, context-sensitive help, and an online tutorial. Version 4.1 augments the previous function-key interface with mouse-driven menus that give access to all of the program's advanced features.

At setup time you can tailor PC-Write's level of complexity to your needs. There are basic, core, standard, and advanced feature options. You may select a global level of sophistication or adjust each pull-down menu individually. The menus are also well organized. PC-Write features that formerly were elusive can now be tracked down by simply browsing around with the mouse. A beginner will easily find simple options like margin settings, line spacing, or mark\copy\move text.

New to v4.1 is a graphics-editing subsystem licensed from Inset Systems, Inc. The Inset add-on allows a word processor to view, edit, and print graphic images that you insert into the text. Text can be made to flow around the picture, or moved to a separate column. Inset also includes rudimentary drawing capability and fill tools. Files can be imported from PIX, PCX, TIFF, and CGM PC graphic formats. The overall effect is not as smooth as with commercial packages like WordPerfect or Microsoft Word, but it works. With its new menus and licensed subsystem from Inset, PC-Write bears a striking resemblance to WordStar, v5–7.

Programmer/author Bob Wallace has inserted a series of helpful features for people concerned with heavy text production. For instance, you can create a glossary of two- and three-letter abbreviations for commonly used words. Then you speed-type the shorthand abbreviations, fleshing them out with a single keystroke. PC-Write's "find and replace" function is very fast. The parallel-column feature makes it ideal for use by playwrights as a script editor. This version can edit ten documents simultaneously, making it useful as a multiple-draft viewing tool for fiction writers.

PC-Write's output is pure ASCII. (The package includes an automatic filter for conversion to and from WordPerfect, v5.1.) PC-Write can also be used as a text editor: to strip away non-ASCII characters in a file or to quickly reformat large chunks of ASCII text. The advanced features of PC-Write are not quite as intuitive as the basic features.

Registration entitles the user to a 60-page Getting Started booklet, plus a 260-page reference manual that should make things clear. Registration also gets you the online version of Roget's Thesaurus to complement the spelling checker.

If you're an adventurous pioneer-type, the best investment you can make in personal computing is to include a modem in your system. With your modem, you can download and evaluate all of the software packages discussed in this article for the cost of a few local telephone calls.

ENVISION PUBLISHER/PUBLISHER PRO

Envision Publisher was the winner of *Shareware Magazine*'s "Editor's Choice" award in 1992. This package is quite impressive for the author's asking price.

It should be made clear that this is not a package to consider if you want to be a desktop publishing pro. However, if you're a new computer user who wants to publish a newsletter and learn something about DTP in the process, you might be quite happy with it.

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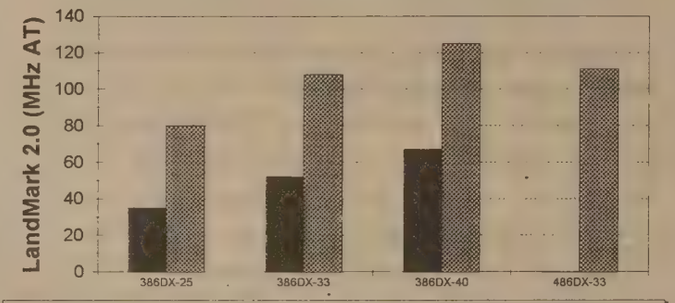

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EVP runs in 500K and requires only 2MB of hard disk space (It will be faster with some additional extended/expanded memory.). The trial package includes an extensive manual and tutorial document. (Registration gets you sixty-eight PostScript fonts and a series of newsletter templates.)

The dialog boxes for this program are not completely intuitive; if you're used to industry-standard programs like PageMaker or Ventura Publisher, you may need to unlearn some habits. Novices will probably be unfazed.

The documentation provides extensive support for Envision. A little bit of study will allow you to produce impressive-looking three- and four-page flyers. The package is capable of editing documents of up to two hundred sixty pages, but the text for each page must be imported as an individual frame.

Envison's strong points are a good set of drawing tools, support for underlying/overlying frames, extensive type control, and good style sheets. The weak points are a lack of keyboard shortcuts for menu-driven functions, and a somewhat rigid interface (graphics functions disappear when you select the text-editing mode, text functions disappear in graphics mode, etc.). Presently, the package imports only monochrome graphic images in the .PCX format, and word processing documents from Wordstar, PC-Write, and Total Word/Volkswriter. The company offers a second package, Envision Pro, which can import color PCX files, and includes additional templates and clipart.

Envision supports a wide variety of printers, and is compatible with Atech's Fast Font PostScript technology. If you're running an older 286 or PC-XT, this program would be ideal as an entree to desktop publishing. (It runs fine on newer, faster machines, as well.)

RESOURCES:

Envision Publisher/Publisher Pro v1.54, $69/$159
Software Vision Corporation
PO Box 1734
Pinellas Park, FL 34664
(813)545-4354

Plug-In for Program Manager, v1.31, $20
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Alpharetta, GA 30202
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Bert's Christmas/Dinosaurs, $20
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PLUG-IN FOR WINDOWS

This add-on to Windows' Program Manager is a big hit among members of the San Francisco PC User's Group. Plug-In adds a series of options to the Program Manager's set of pull-down menus.

On the File Menu, you gain the ability to more easily manage additions and deletions of programs, application groups, and designated icons. You may set up multiple startup folders and "two-platoon" your Windows groups, by hiding some from the menus and allowing others to remain visible.

Additions to the Options menu include a "System Info" display and a "Save Settings Now" command. "System Info" shows you everything you ever wanted to know about Windows resources and system memory. The chart of resident Windows applications and the memory they use may be useful for programmers and system consultants.

The additional "QuickRun" menu displays a launch-list of DOS or Windows applications. You can

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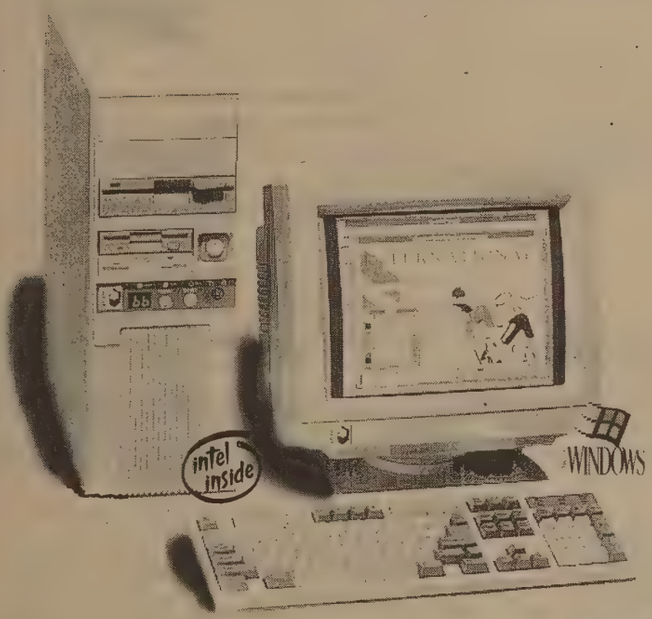

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use the launch list to start programs quickly, or to run internal DOS commands. (For instance, you might set a "Backup" menu option that automatically archives a directory with the DOS COPY command.) "QuickRun" also let you "activate" and "deactivate" Program Manager groups. If you have too many of these, you can select alternate sets to remain visible on the desktop.

Plug-in also makes numerous cosmetic changes to the desktop, allowing you to select from different sets of cursors and program icons. Its most useful aspect for Windows beginners is the time it will save them from wading through Program Manager's convoluted menus. Plug-in installs or deinstalls itself seamlessly. It will not get in the way of standard Windows operations.

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256-color palate, and two modes: the easy one suggests a color for each area in a sketch, and the advanced mode lets you choose your own colors.

This program is aimed at preschool children and kindergarteners. The demo has approximately twenty pictures, and the full version has over one hundred. The sketches includes dinosaurs, jungle animals, clowns, dogs, people, and sets of numerical and alphabetical cartoons. It plays twenty songs over a PC speaker, Ad Lib, or Sound Blaster card. The authors also make a Jigsaw Puzzle and Concentration game along the same lines for slightly older children.

Bert's Christmas/Bert's Dinosaurs: These VGA coloring books include sound and printed captions that identify the names of all the objects in the sketches. Large and small versions of objects can be scaled and pasted into the drawing to compose a picture. Children may then pop up a text-editing box and write a story to go with the picture. Both the picture and the story can be printed out on any standard printer. The Christmas package includes snowmen, sleds, houses, stockings, etc. and the Dinosaur package includes a wide variety of different dinosaurs. ■

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HOLIDAY Gift Guide

Maelstrom And Beyond

Carrying The Torch For Mac Shareware

BY KEVIN M. SAVETZ

Maelstrom is a successful and addictive shareware game—for the Macintosh. Its author, Andrew Welch, is a 22-year-old photography student at the Rochester Institute of Technology.

Welch started working on Maelstrom around August 1992. "Maelstrom," he explains, "was my attempt to prove to the naysayers that fast-action, pulse-quickening arcade games are a natural for the Macintosh."

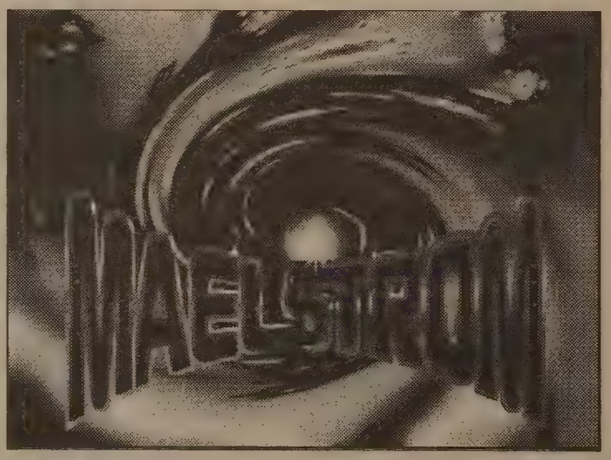
Over the years, the Mac has had trouble being accepted as a game machine. This is something of a chicken/egg problem says Welch, "Many DOS publishers snubbed the Macintosh game market by providing terrible ports of their DOS games, and then wondered why the sales were abysmal.

"Macintosh users are an indignant bunch, who expect software to meet certain standards. Making them feel like they were using a DOS machine was one of the few first-class tickets to failure in the fledgling Macintosh game market."

So he got to work. Although Maelstrom was Welch's first attempt at writing a game, he has been doing other programming projects for years. His previous ventures included a variety of commercial applications, freeware and shareware programs, including FlashWrite, Easy Envelopes Plus, and about fifteen others.

For a long time, he'd wanted to write games, and specifically to revamp the classic Asteroids game. In Maelstrom, he created one of the most popular Mac shareware games ever, and won the 1993 Shareware Industry Award for best Macintosh program.

"I set out to try and write a fun, fast-paced action game to please my own secret



desires, and to say 'Look here, it can be done: stop festering in excuses.'" Welch notes that the development of Maelstrom was "truly a fly-by-night affair that took place entirely on America Online. I'd get new artwork to put into the program, add a few features, and send it out electronically to the play testers to see what they thought of it. This happened numerous times; the game developed in fitful steps until finally, mercifully, it was ready for public release."

Collaborating online has its advantages—allowing a variety of far-flung people to playtest the game and offer opinions. The downside, Welch points out, is that he's never met in person any of the people who were involved with Maelstrom.

Although he has no way of knowing how many people are playing Maelstrom, Welch says people have been very supportive in paying the game's $15 shareware fee. "Regardless of the returns financially, I consider Maelstrom a success in my own terms: I think it is an enjoyable game, and I've finally got my version of Asteroids running on the big screen."

Maelstrom's success brought on an ironic twist: "I've even got quite a few requests for a DOS version of Maelstrom, which shows that there is some justice in this world."

Welch has even had offers from several game companies to make Maelstrom a commercial game, but has declined the offers. "I've decided against it for several reasons, not the least of which is that I think we need decent shareware games for the Mac. I also truly enjoy 'marketing' the game myself; the old maxim of too many cooks spoil the brew is definitely true. My only regret is that Maelstrom will reach fewer people as shareware than it would if it were distributed commercially."

Since its initial release, Maelstrom has evolved though numerous revisions and changes, but Welch considers it finished, only releasing new versions for bug fixes. "There comes a time when you must consider a work finished, put it behind you, and move on to other projects. I definitely plan to continue issuing updates to Maelstrom if any bugs are found, but other than that, I think it is time to declare the game done and move on. Otherwise I'd spend all my time tweaking Maelstrom instead of doing something more intriguing such as working on a new game."

What about the next game? "I really can't give anything about it away, because I'm not exactly sure myself what my next project will be. I've been working hard to build a killer set of core routines that will not only make my next game really cool, but will also allow me to churn out games much

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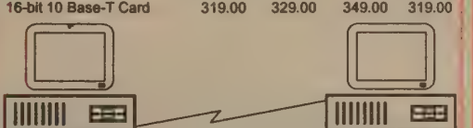

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Over the years, the Mac has had trouble being accepted as a game machine.

more quickly. Once those are done, the game that gets done is up in the air."

TECHNICAL DETAILS

Maelstom is written in Think C, composing eighteen thousand lines of C code and nine thousand lines of inline assembler for the speed-critical portions of the game.

Welch is a self-taught programmer. "I've taught myself far more than I've ever learned through a structured environment such as the classroom; it's a lust for knowledge and excellence that drives me. I like to blaze my own trail; others may do far better taking formal classes. It really depends on your inclination. I wouldn't necessarily recommend this approach to anyone else, it depends on your personality.

"The most time-consuming part of programming was getting the animation done correctly, because there was no source I could go to in order to find out how to do it right. It was a lot of trial, error, and timing. There were a lot of pieces that had to fall into place before the game itself was playable. That was the most frustrating part—a very high curve before I could even see if Maelstrom was turning out OK."

WHITHER SHAREWARE?

Why write shareware?

"When I was first exposed to the idea of shareware, I was quite impressed. From the practical side, the entrepreneur in me was awakened to the possibilities: here was a way to beat the system, venturing out with a little luck and a lot of hard work to pave my own way. I also looked on existing shareware authors with a degree of respect, because if you depend on the honesty of others for your livelihood, you must have substantial faith in human nature—it goes with the territory."

Welch adds, "Idealism wasn't the only driving force that me into the shareware market. I didn't have much choice. It is quite hard to get a program written—let alone published—with little experience behind you. Shareware was a way for me to learn, create, and market all at the same time." He finds the shareware market reminiscent of open markets in Mexico, where vendors sell their hand-made wares in improvised booths. Customers must hunt through a myriad of products to find a diamond in the rough, with no slick advertisements or other inducements pointing the way. "I found this somehow refreshing, dealing with an individual instead of a trademarked logo, and taking active participation in barter rather than being spoon-fed information from ad agencies. Quality

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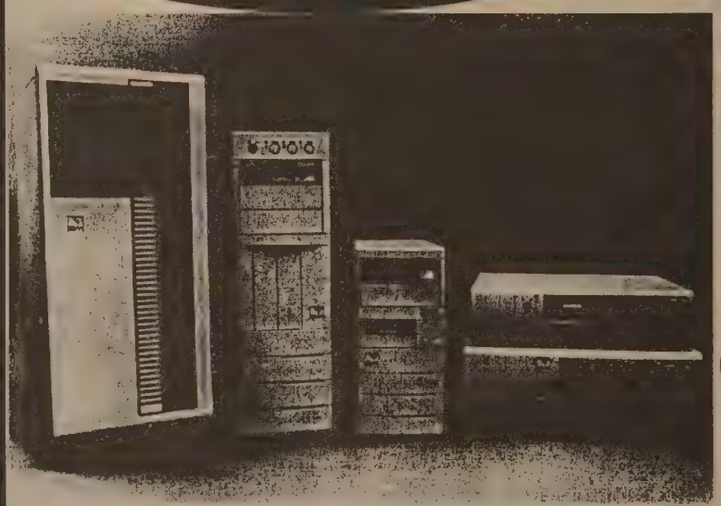

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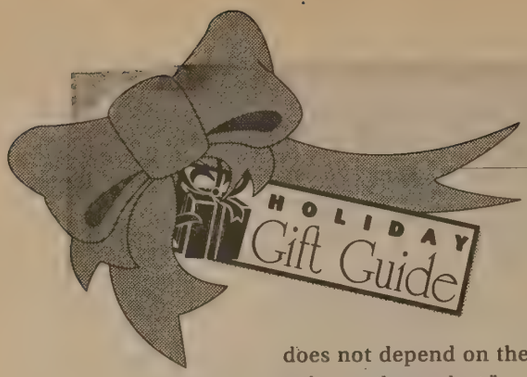

does not depend on the packaging, but rather on the product."

Welch's first shareware products were typefaces, not programs. "I enjoyed designing typefaces, and the fact of the matter is that I couldn't do much more; I simply didn't have the programming know-how to do anything significant. But then I decided that I wanted to make a complete package wrapped around the typefaces I created, so I stumbled into programming quite accidentally.

"The typefaces actually went over quite well in my opinion—but then again if I got a letter a week I was ecstatic, because it meant that I had succeeded in reaching out to the world at large. Every letter was a success, because it meant that someone had judged my work as worth paying for on their own terms, after using the product. This is akin to reading a book and then sending the author payment if you deemed it worth your while; quite a different world indeed!"

Will shareware prosper as an industry? "I think there will always be a place for shareware, just as there will always be a place for the farmer's market and mom-and-pop businesses."

"Shareware is an excellent proving ground for the budding programmer, and it is also a real grass-roots method of doing business. You are very close to your customers, and you have complete control over your product and prosperity."

Welch's "rules" for success in the shareware market are simple: "One—provide a quality product. This seems like common sense, but I see many programs out there that are complete garbage, and the author is asking $25 for it! Then he or she is disappointed when it doesn't go over well.

"Two—maintain the product by listening to what people want and improving it. People will be much more likely to support you if they see that you are actively working on improving your products. Free updates are a must."

"Three—make it easier for the person to register. I think the reason many people don't register for shareware programs isn't because they are dishonest; they just don't get around to it for one reason or another. With the number of things we all have to deal with in our daily lives, this is understandable."

DATA HIGHWAYS AND BEYOND

Welch believes that as we move toward being linked on a worldwide computing network, the electronic method of distribution will be a much more important player. This in turn could benefit shareware authors, even at the expense of commercial software producers who will be less able to rely on packaging and advertising.

"A person at home can tap a few keys to find a program that suits their needs, use it for awhile to verify that it really does work

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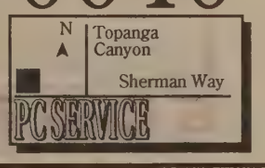

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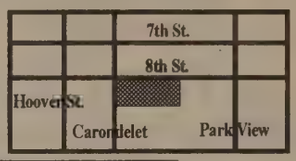

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for them, and then pay a reasonable price for the product because of the low-overhead nature of electronic distribution," Welch speculates.

Data highways, though, are just the beginning. "Our abilities are infinitely more advanced than our capability to express them—there is always a barrier between what we think, feel, and imagine and what we do, express, and create. Perhaps it's nature's way of keeping us humble.

"For me, the Macintosh was a tool that broke through some of these barriers, creating a connection between man and machine that eliminated some of the awkwardness I'd felt when working on other computers. With other machines, I was always painfully aware that I was using them; with the Macintosh, I forgot about the tool and concentrated on the ideas.

Welch has even had offers from several game companies to make Maelstrom a commercial game.

"Ultimately I believe that computers will be literally linked directly to our minds, eliminating most of the physical barriers altogether. Our evolution and progression is no longer in ourselves, it is in our knowledge and consequently in our tools. Since it seems our primal stuff will not change much or soon—and since we are a notoriously impatient beast—my best guess is that we will continue to improve and integrate the tools we use, to a point that they will become a literal extension of our minds." ■

Copyright © 1993 by Kevin Savetz. Kevin is a computer journalist living in Arcata, California. All he wants for Christmas is 16 megs of RAM. He can be reached via electronic mail on the Internet: "Savetz@rahul.net"; on America Online: "Savetz".

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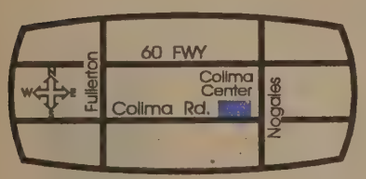

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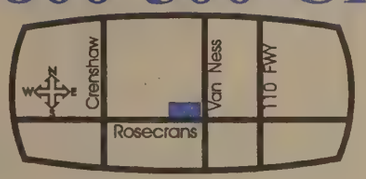

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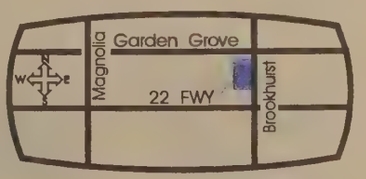

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The Shape Of Publishing To Come?

BY KATHLEEN CREIGHTON

Learning how to read was the best thing I've ever done in my life. Reading was the centerpiece of my childhood, the reason for many hundreds of trips to the library, hours of spelling drills and sentence diagramming, world literature, and two years of Latin. Like most kids who read, I had stratospheric SAT scores in English.

Reading is the main thing you're likely to do online, so enjoying it is nearly a requirement. Once logged on, I realized that others had even more stratospheric SAT scores in English than I did and a deeper knowledge of literature. They wrote in ways that I could only dream of, and, as evidenced by the number of people online who own an Oxford English Dictionary, possessed a true love of words for their own sake. Many people bring all of these fine talents to the virtual party, while the rest of us labor to infuse the CRT with life so that we may be more easily understood when discussing, say, lasagna recipes. And we try to understand as we read others' writing and fill it with what we hope is the writer's intended meaning.

Simply put, being online is an exercise in literacy. As *San Francisco Chronicle* columnist Jon Carroll put it recently, life online "is not so much post-literate as literate again." And gathering with literate people online can be very exciting indeed.

PUBLICATIONS ONLINE

One of the more popular experimental products online in the last year has been a direct appeal to readers—electronic newspapers and mainstream periodicals. Specialized periodicals and newsletters, mostly financial, have been online for quite awhile, as have newswire feeds and encyclopedias. Many newspaper and magazine publishers had originally sold archival rights to expensive information services, such as DataStar and Nexis, but some are now reconsidering those decisions, wondering if there isn't some advantage to publishing and archiving online versions of their periodicals in the consumer arena at reasonable cost.

Of the more than fifteen hundred daily newspapers in the US, a few have complementary online venues without the complete text of the newspapers. These function more as community bulletin boards and as sources of leads for reporters than as newspapers. The *Chicago Tribune* started up "Chicago Online" last year on America Online (AOL) without the newspaper, although that has since been added. Then Knight-Ridder got into the experiment and put the (almost) complete *San Jose Mercury News* up on AOL, in what is known as "Mercury Center."

Although I've always been critical of people who don't read a daily newspaper, I'm now one of them. I've gotten away from a lifelong habit, relying more on CNN and other television news sources. But I recently wandered into Mercury Center at 4:30 am, and already the day's newspaper was available. As is my habit, I skipped international news and instead scanned the headlines for national, state, and local news. When the headline piqued my interest, I stopped and read the underlying article, much the same way I would read a hard-copy newspaper.

The newspaper was all there, divided into the same sections as its hard-copy counterpart. After I was finished with the news sections, I scanned the editorials, letters to the editor, business, sports and TV news, obituaries, and classified ads. There were no comics and no TV listings (*SJMN* is working on providing listings eventually), but I could look up the guest list for the day's TV talk shows and find out the time for the Giants' game. I did all of this from rural Sonoma County and when I was done reading, I didn't have a stack of paper to recycle.

MERCURY CENTER: MAKING CONNECTIONS

But I didn't know what I was missing until Bill Mitchell, the Merc's director of electronic publishing, sent me a hard copy of the newspaper. On page two, a half page is dedicated to the announcement of the evening's Mercury Center chat topic on AOL, how to get software, how to get AOL support. The newspaper's integration of articles with pointers to online discussion knocked my socks off. And readers can take advantage of background material, text of speeches, and more by using a special code at the end of the story to access more information online.

One of the features I most enjoyed using was the selection of specific types of previously published articles online, available without searching the archives. For example, under the "travel" section of the paper, there are a number of travel articles listed with their date of publication in the newspaper. This is a real boon for reforming packrats like me who tend to collect newspaper articles "just in case" I need them some day. If I were planning a trip to Ireland, I'd take a look at the list of articles available online to see if one covered my travel interest. I could also search the

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archives ("News Library") for an additional fee. (Weekdays, 6 am to 6 pm, 80¢ a minute; all other hours and weekends, 10¢ a minute.)

Twice recently it's happened that people have asked me if I've read one or another syndicated column—both happened to be carried in the *SJMN*, so I headed to Mercury Center to see what I'd missed. Eventually, a selection of newspapers online will bring access to a wide range of syndicated material, or, in other words, Ann Landers *and* Dear Abby.

Mercury Center supports message areas and messaging to specific editors, writers, and columnists. The message areas reinforce the regional appeal of Mercury Center within AOL's national usership, something other large commercial services should have seriously considered. (Prodigy has announced a venture with Times Mirror to bring the *Los Angeles Times* online in 1994 as the focus of a regional system.) Given the evanescent nature of daily news,

The newspaper's integration of articles with pointers to online discussion knocked my socks off. And readers can take advantage of background material, text of speeches, and more by using a special code at the end of the story to access more information online.

Mercury Center message board discussion tends to center around quality of life issues, such as transportation, crime, and real estate.

While all AOL users are invited to Mercury Center, and while Bay Area users will find some articles of particular interest, the big winners are those who both read the *SJMN* and subscribe to Mercury Center, mostly residents of Santa Clara County, as Mercury Center is tailored to them. It's a great way to stay involved in the news, in regional events, and to give instant feedback about the issues of the day. And parents can start laying the groundwork for their children's stratospheric English SAT scores by introducing school-age children to the fine ritual of reading the newspaper in the '90s.

Mercury Center offers a risk-free ten-hour trial. Monthly rates for Mercury Center are $9.95/month, which includes five hours of online time, then $3.50/hour for every hour thereafter. This includes full access to AOL. For more information, call Mercury Center Customer Service, (408)297-8495 from 7 am to 7 pm weekdays, or from 8 am to 2 pm on weekends. ■

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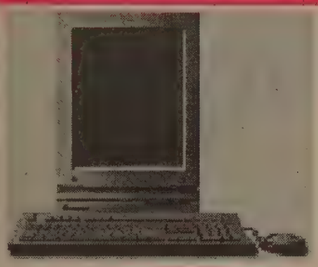

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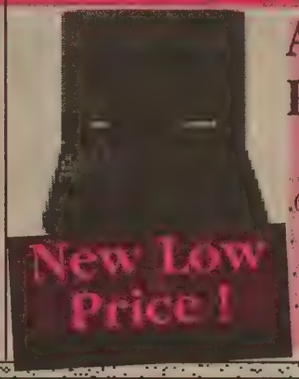

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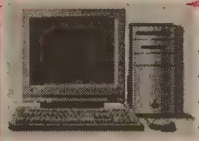

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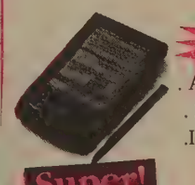

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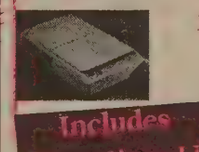

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HOLIDAY Gift Guide

BMUG For The Holidays

Books, Toys—Something For Everybody!

BY DAVID MORGENSTERN

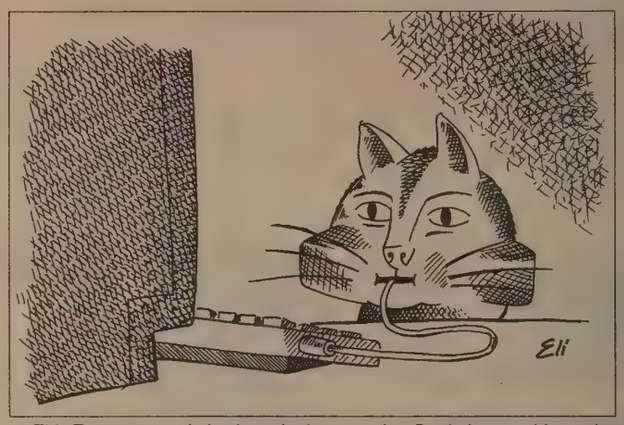
It's that time of the year again—the season of receiving. Or are you stuck being the primary giver? Either way, there's a BMUG something for everyone, no matter your budget, great or small. You don't even have to be a Macintosh owner!

BMUG—THE YEAR 'ROUND GIFT

As I travel around the world, I continually meet people excited about BMUG. These great folks are not just being polite and humoring the self-proclaimed BMUG cheerleader. They are pleased to be supporters, because BMUG isn't like any other user group. Instead of a narrow focus on information exchange, our mission also includes helping people, user and developer education, and political action.

There's an old Jewish saying that says, "We fall down by ourselves, but it takes a friendly hand to lift us up." This is what BMUG is all about. Our many meetings, telecommunications service, Helpline, and publications give us an opportunity to share information and support each other with our problems. Computers are not just machines—they can be a force for positive change, and BMUG needs the support of members and the developer community to keep up our good work.

There are many flavors of individual and group memberships available, ranging from $28 for a six-month personal to the $2500 corporate plan. The basic Contributing membership includes two issues of our newsletter (a 400+ page book), access to the BMUG Helpline for one person, and an account on a BMUG BBS for sixty minutes a day. Other individual memberships expand on the basic plan with additional goodies, expanded BBS access and services: Sustaining ($70), Hero ($100), and Satellite Club ($250). For more information on becoming a member, please call the BMUG office at (510)549-2684, or fax (510)849-9026.



This Toonware cat is having a bad mouse day. But he's wearable on the Toonware T-shirt!

THE MORE PAPER LIFESTYLE

BMUG has one foot in the paperless information world on our bulletin board service, Planet BMUG, and the other in print materials. We can't all drag our computers under the covers with a flashlight—yet. Here are a few of the cool book deals available from BMUG:

• *The Tao of AppleScript* is the first book on the market about AppleScript. It includes a high-density disk containing Apple's official AppleScript software, as well as scripting utilities and additions written specifically for the book. The book is just shy of three hundred pages and is published by Hayden Books. It's only $20.

• If multimedia is mystifying, you might want to try our *Quicker QuickTime* book. It explains the fundamentals of getting started in multimedia. Although the book is small, it packs a big wallop of information for $10, or you can take advantage of a special deal and get the TV-ROM Too digital video collection and book for only $45.

We also have copies of Apple's new book *Demystifying Multimedia: A Guide for Multimedia Developers*. This $22 book describes all aspects of multimedia production and development. It has interviews with people employed in the field. If you're thinking of a job change or interested in the business, check it out.

• We have a couple more book specials. BMUG's collection of amusing computer related cartoons, Toonware: a humor interface, is only $6, or $15 with accompanying T-shirt. If you've been unsatisfied with any element of your Macintosh interface, try the $30 bundle of BMUG's fantastic *Zen and the Art of Resource Editing* book and our Zen ROM. The CD has thousands of color icons, patterns, resources, and utilities. Very cool stuff.

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BMUG has long been known for having one of the largest collections of publicly distributable software in the world. Our library contains over four hundred 800K disks, organized into subject categories. We also have many CD-ROM collections for users with a CD drive. BMUG carefully and painstakingly checks everything we sell for viruses. Here are some of the new offerings in the catalog:

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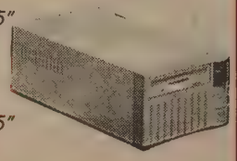

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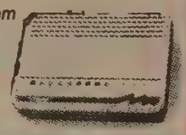

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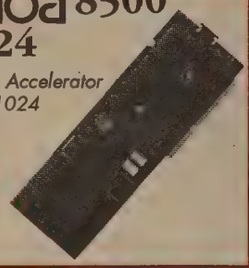

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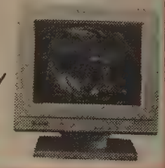

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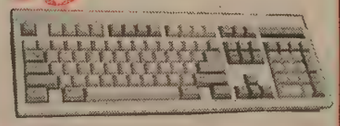

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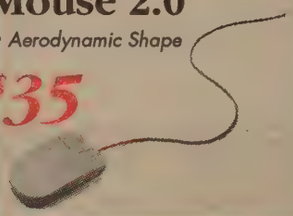

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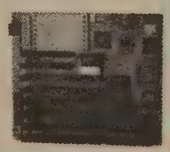

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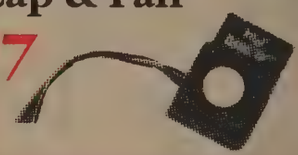

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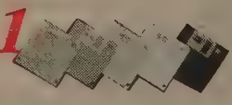

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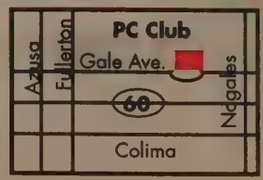

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• Everyone with a Macintosh loves fonts, and we have the best library of shareware or freeware type available. The BMUG Font ROM has more than 120MB of TrueType and Type 1 PostScript fonts. The disc also has the Adobe screen fonts up to Number 289. The disc is only $15, so it can fit in all types of stockings and budgets.

IT'S ALL IN THE ACCESSORIES

BMUGers tend to stand out in a crowd—partly because they are statistically more intelligent and cool than the general populace. But they also outfit themselves with items that project the BMUG lifestyle.

The legendary one-size-fits-all BMUG tie-dyed T-shirt, seen in Katmandu and Cannes, reads, "The BMUG T-shirt. Tie-Dyed in Berkeley by Deadheads." It's only $15.

A new item this year is the BMUG ceramic mug. It's tie-dyed (what else?) and says "BMUG" down one side. This $10 mug will show your good taste whether you drink your refreshing beverages with or without caffeine.

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A FEW WORDS FROM THE BMUG OFFICE

There are many more specials and items available from BMUG than are mentioned here. You can receive more information, or order by phone at (510)549-2684 or 1-800-776-2684 (orders only). We are also pleased to receive your fax at (510)849-9026.

You can also send a check or money order to: BMUG, 1442A Walnut St. #62, Berkeley, CA 94709. VISA or MasterCard is accepted. Please include the expiration date on the card. Please do not send cash.

The shipping and handling charge is $4 on all orders. Next Day or 2nd Day delivery is available by phone ordering only. Orders need to be received, phoned, or faxed to us by December 10th for Christmas delivery—and you must explicitly state that you want your order by then. The special prices mentioned here are good only until February, and may head upwards at that time. Thanks. ■

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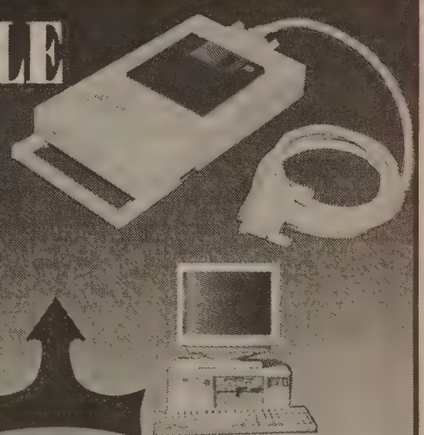

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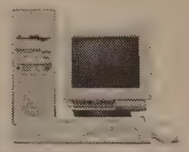

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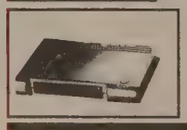

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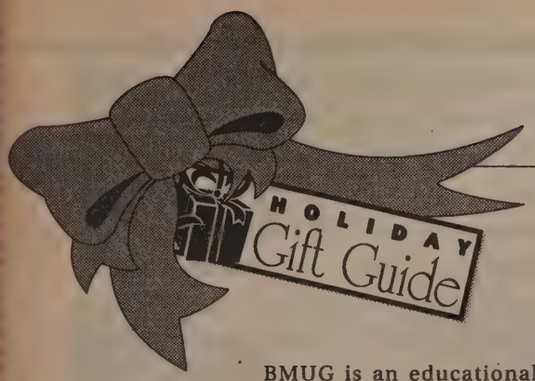

WHAT IS BMUG?

BMUG is an educational, non-profit, consumer advocacy group organized to share information and provide critical direction to users and developers in the computer community worldwide. It is an independent advocate, not affiliated with any manufacturer, delivering trustworthy information and useful products.

Like any growing organization, it is many different things to its fourteen thousand international members. BMUG supports many Special Interest Groups (SIGs), an 18-line Bulletin Board System (BBS), free HelpLine, software library, weekly meetings, publications, and much more. BMUG also puts out a semi-annual 350+ page book that we call our "newsletter."

Our motto continues to be: We're in the business of giving away information.

Come and join in the dialogue at the BMUG main meeting every Thursday evening, 6:30–9:30 (or whenever we finish), in the Physical Sciences Lecture Hall on the UC campus. BMUG West and BMUG South are monthly meetings held in San Francisco and San Jose.

The BMUG Office, 2055 Center Street (a half block from the BART station), is open to the public from 9 am to 5 pm. Please come by and say hello, meet other members, and hang out.

The BMUG Helpline provides volunteer technical assistance and telephonic hand-holding for our members. If your question can't be answered on the spot, we try to get you in touch with someone who can help. Of course, not every problem can have a happy ending—but we try. Improve your Macintosh education, and help others by becoming a Helpline volunteer!

BMUG has one of the most up-to-date, comprehensive software libraries around with hundreds of disks filled with the latest versions of public domain or shareware programs, and HyperCard stacks. New disks are unveiled almost every week at the Thursday general meeting. BMUG also brings you the TV-ROM™, a fantastic collection of public domain QuickTime videos.

Our new graphic user interface FirstClass 18-line BBS offers many of the latest versions of files in our software library, as well as news, private mail, rumors, etc. With our multiline capability, you can have access to BMUG almost 24 hours a day. It's easy to use, fun, and a great resource.

BMUG can be found on most electronic services. BMUG can also be reached through the Internet international network through UG0001@applelink.apple.com.

To get further information about BMUG please write to: BMUG, 1442A Walnut St. #62, Berkeley, CA 94709. If you prefer to phone our business office call (510)549-BMUG, or fax (510)849-9026.

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486 DX ISA SYSTEM	486 DX VESA SYSTEM	80386DX-40 CPU
486 DX (INTEL)	486 DX (INTEL)	128K CACHE
256 CACHE	256 CACHE	255 MB IDE HD
1.44 AND 1.2 FLOPPY DR.	1.44 AND 1.2 FLOPPY DR	DIGITAL MINITOWER
255 MB HDD	255 MB HDD	1.2 & 1.44 MB FD
TRIDENT 1 MEG CARD	VLB GRAPHICS CD W/1 MB	TRIDENT W/1MB
SUPER IDE + I/O CARD	VLB IDE CARD	SUPER IDE I/O CONT.
4 MEG RAM 70 NS	4 MEG RAM 70 NS	4 MB RAM 70 N/S
101 KEYBOARD	101 KEYBOARD	AT101 KEYBOARD
S.V..G.A MONITOR .28 N.I.	S.V..G.A MONITOR .28 N.I.	14" NON-INTERFACED
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Intel CPU	

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Drawing & Painting

AD0011 (3 disks) borders, corners and frames for desktop publisher in pcx format

AD0020 A lot of very nice PCX clip arts

AD0030 Desktop Paint pgm for use with desktop publishing software

AD0031 (2 disks) Cooper PCXclip arts GrafCat graphics cataloging pgm

AD0040 Desktop Paint 256 color paint pgm for super VGA systems

AD0050 Clip arts for desktop publishers

AD0060 Creative Graphics Archives with uniquely high quality clip arts

AD0070 Picture Label prints images from PrintMaster/PrintShop Create/display mandel graphs GIF viewer for EGA/VGA

AD0080 The Lighting Press Print Master Clone VGA Paint drawing pgm

AD0090 TheDraw color & monochrome screen Image generator/editor.

AD0100 Collection of hand-drawn graphics & templates for PFS:First Publisher

AD0111 (2 disks) EnVision Publisher full-featured desktop publishing with WYSIWYG, scalable fonts, drawing tools, import, mouse support

AD0120 Image Alchemy compresses, expands & converts images Xmas card show

AD0160 GIF-Reed image viewer, printer, & converter, with PuzzleFun & slide shows.

AD0170 GDS graphics image enhancer and viewer with slide show PrintPartner makes printed banners, signs, and calendars

AD0180 VGA Dancing patterns Japanese PCX clip arts PCX clip arts

AD0191 (3 disks) Medical PCX clip arts

AD0201 (2 disks) Architect PCX clip arts Office PCX arts

AD0211 (2 disks) Travel clip arts in PCX

AD0220 soft fonts utilities: FontTable gets fonts details FontEdit Font Loader

AD0230 Advertising clip arts

AD0241 (3 disks) Fictional PCX clip arts

AD0251 (4 disks) AccuRender, a high quality raytracer for AutoCAD 12 for DOS. Reflections, Refractions, Lighting, Materials Libraries and even Foliage. Req a 386+.

AD0260 Christmas clip arts, PCX format

AD0270 Collection of scenes and objects found around the office in PCX format.

Animation/Slide Show

AS0010 3-D animation of a flying jet

AS0021 (4 disks) Crystal Dream with superb music and VGA animation

AS0030 animation, desk lamp riding a ball

AS0040 Animation, skeleton's walk in cemetery StarTrek going to warp speed

Picture Viewers

AV0010 Icon conversion software

AV0020 Slide show and visual effects

AV0030 Grabber screen capture pgm GIFPrt displays and prints GIF images ANSI Digitizer Req VGA

AV0040 Create 3-D charts View GIFs on CGA/HGC Dave's TGA animator converts GIF to BMP

AV0050 DL-View for .dl files Flick animation/audio player Convert b/w PCX to gray shaded GIF Convert .GIF to .exe

AV0060 Improces the premier image enhancing, painting and editing pgm.

AV0070 VuGIF displays GIF Pictures Viewer for PCX files VGA clown demo

AV0080 VPIC image viewer/converter for EGA+ Play73 Trilobite SVGA flick & groovie player Show utility TV animation

AV0090 Autodesk animator and player GIF cropper CompuShow displays images

AV0100 DanCad3D 3D-CAD & animator

AV0110 Graphic Workshop for DOS lets you work with bit-mapped images.

AV0120 Autodesk AutoFlix converts slide/rendering files GIFLite compresses GIF files by 30% GIFPrint view/print GIFs

AV0130 CompuShow image viewing & slide shows DeadPaint remote imaging paint, animate, view GIFDir info on GIFs

AV0140 3D CAD rendering pgm with full complement of 3D drawing/editing tools

Business Software

BA0010 Dayo 'Little' POS- Point of Sale Billing & Invoicing abbreviated version

BA0020 Dayo Billing & Invoicing - Returns & Refunds Module

BA0030 Dayo AP to process purchase orders and other expenses

BA0040 Dayo Rental POS- Point of Sale Billing and Invoicing for Rental Companies

BA0050 Dayo Return Management -PC-Agent database/prospect card filing

BA0060 Dayo Point Of Sale- Billing & Invoicing software

BA0070 Dayo Payroll computes payroll for any size business

BA0080 Dayo Accounts Receivable for processing/maintenance of your receivables

BA0090 Dayo end of period pack & inventory

BA0100 Dayo General Ledger (GL)

BA0110 Dayo Billing for businesses that require more formal or detailed invoices.

BA0120 Dayo Shipping Log RAM Base Accounting for point of sale, and business record keeping

BA0130 Home Office Tax calculator Home Budget Management System

BA0140 The Fund Accountant for accounting functions, fixed asset/liabilities, payroll, checkbook, & budget records

BA0150 Account Plus accounting system

BA0160 Finance Manager II - Accounts Payable Lite

BA0171 (2 disks) The Fixed Asset Manager PC-Books bookkeeping software

BA0180 Accounting 101 MAE-Management Action Expert software

BA0190 CheckMate Plus full-featured, easy-to-use, checkbook accounting package

BA0200 CASE - Consulting and Small Enterprise Accounting System specially designed for consultants, designers, etc.

BA0211 (2 disks) Fixed Asset Manager

BA0220 Medlin Accounting software for small and medium size businesses.

BA0230 Finance Manager II Accounts Receivable Lite General Ledger Lite

BA0240 Inventory Sort for small inventory lists Micro Accounting System

BA0250 Inventory Plus WYS-AR Accounts Receivable Pgm

BA0260 The Nonprofit General Ledger

BA0270 OverLord organizes/controls records/accounts of members, tenants, etc.

BA0280 Payment Book Writer Paytime Payroll pgm

BA0290 SOAR, Service Oriented Accounts Receivables system

BA0300 PC-Deal double entry acct. ledger PcLeger personal finance recorder

BA0310 Rosewood Journal sales journal/accounts receivable SPC accounts receivable

BA0320 Finance Manager II Payroll Module Lite The Simple Bookkeeper

BA0330 Business Plan Master PC Billing invoicing system

BA0350 Single Entry Bookkeeper for business/home Billit prints invoices, statements purchase order, Laser/dot matrix

BA0361 (4 disks) Painless Accounting fully integrated accounting; general ledger, billing, accts receivable, accts payable

Business Management

BM0011 (2 disks) Immigration Tracking

BM0020 PC-Speedy Mailer Phone- A telephone dialing pgm

BM0030 AZ Real Estate Investment and Finance Bid Buz estimating pgm

BM0041 (2 disks) The Donor Network manages donation & fund raising activities

BM0050 Pds*Quote quotation & bid estimating system for any type/size business

BM0060 The Complete Automobile Reporting PC-Estimator- estimating system

BM0070 Service Plus ties maintenance or service activities to parts, objects, items.

BM0080 Sitter- Placement Service System for baby sitting & respite care bus.

BM0090 Police Records System Sign Out keeps track of workers whereabouts

BM0100 RealQuick real estate management system Real estate info.

BM0110 Land Surveying Software Survey land yourself and save money.

BM0120 REIPS real estate investment projections system Rental property analysis

BM0130 Real Estate System Realtors' financial calculator Print W2 & 1099-Misc.

BM0140 VmSys Plus maintains vehicle expenses Examine real estate descriptions

BM0150 Landscape Plant Information System. Moon Lighting Advisor

BM0160 Certificate Creator produces certificates, awards, commendations, etc. FormGen Full form filling system

BM0170 FormGen II - Form Generator II is the most popular form making package

BM0191 (2 disks) Make A Mess powerful visual tool to display messages/ads on monitor Master*List database manager

BM0201 (2 disks) Contact Plus contact management system, lets businessmen organize phone calls, notes and appointments collection of 594 business and legal letters

BM0210 Contact Manager for small to mid-size businesses; zip code sorting, labels, mail merge Business Planner for small business structuring/startup

BM0220 CrafTracker home business manager maintains the figures needed for IRS Schedule C & state sales tax returns.

BM0230 Almanac personal info. mgr. with calendar, card file, biorhythms ApCal appoint/calendar Lawsuit/Asset Protection

BM0240 Automotive calculations for auto work AutoMinder preventative maint. tool Public Address does labels, envelopes

BM0250 Receptionist computerizes job of a secretary. Tabs phone messg; maintain contacts info/appointments. Req color, HD

BM0260 The Order Pro order-entry system for small to mid size mail order businesses Garage Sale Manager

BM0270 AutoMessage presentation system displays graphical messages of up to 999 lines with professional results.

Communications

CM0010 BGFT background file transfer

CM0030 HSLink external hi speed, full streaming, bi-directional protocol ComCal pages you or runs pgms when it receives a signal ring. StarDial auto dialer for Starlink

CM0041 (2 disks) BitFax S/R for Send/Receive fax modems class 1.

CM0050 ElseWare PC remote access pgm ATSend sends commands to modems Autopuna script for Telix DSZ Zmodem

CM0060 Faxcover prints personalized fax cover sheets ESCOMM comm pgm. Hi-Speed provides info on fast modems

CM0080 MPi protocol for PC-to-PC data transfer through a serial link Modem Doctor PageMe paging pgm

CM0091 (2 disks) QModem comm software with superb capabilities

CM0111 (2 disks) Telemate powerful comm pgm with editor/viewer, huge back scroll, mouse support gives OS/2 like power

CM0121 (2 disks) GtPower16 links computers for talk, file transfer CheckIRQ shows COM ports/IRQ numbers Powernode /modem/Zmodem shell

CM0130 Cedar Island Link elegantly simple to use mouse based comm pgm with auto GIF viewer (SVGA); 300-100k bps.

CM0141 (2 disks) Ripterm graphical, full-featured comm pgm Transfer data between PC's at 19200bps MyComm powerful comm pgm for calling BBSs.

CM0150 Phone Secretary controls fax, modem, ans, on 1 line, call fwd, log calls, calls your beeper or phone PageMate pages you when it receives a signal ring.

Data Base

DB0011 (3 disks) File Express database management for names, addresses; sort by zip code/last names; print mailing labels, write form letters by merging names with a letter.

DB0020 Data Master database magr: create, modify, sort & query dBase files

DB0030 SoundZ librarian for tapes, CDrecords. DBF-View .dbf file editor

DB0041 (2 disks) 3 cataloging pgms: Cassette Master Album Master CD Master. print listings/inserts Req graphic prtr

DB0050 Ultimate Mail List Manager manages sales prospects and customer lists.

DB0060 EZbase database management create, add, edit, browse, query, report Convert data files from one to another.

DB0070 Book Librarian organizes and manages personal, club, and school library HoldAnything keeps track of anything

DB0080 Wampum the ultimate database a small, 20K TSR; supports dBASE and PCX graphics fields, Multi-user, LAN

DB0090 Information Palace tracks coins, stamps, addresses, phones, magazines Video Madness database for video tapes

File/Disk Compression

DC0010 PkInsert adds comment to .zip files PkLite compresses .exe & .com files PkLiteFix makes pklited files unextractable

DC0020 FlexBak Plus hard disk backup system The Configuration Manager and Boot Control Pgm Dir Match

DC0030 PkZip file compression utility Format low-density diskette to 800k

DC0040 Shez shell for zip, lha, zoo, arc, arj Split files into smaller files Strip zip-file comments Subzip compresses directories

DC0050 Arj file compression utility Zipfile shell utility for PkZip v1.1 to v2.04g

Word Processors/ Editors

DE0010 SageWord powerful, fast word processor TypeRite electric typewriter

DE0020 Boxer- full-featured text editor with multi-level undo. Supports mouse, EGA, VGA 28/43/50 lines, macros, WP and more!

DE0030 EdWord a professional full featured, multi-file text editor Handbook prints 3.5" by 5.5" handbooks from text files

DE0040 Spanish dictionary and thesaurus for WordPerfect 5.1

DE0050 Readability Plus analyzes your writing skill ZipZap lets you to view and/or modify a file or disk sector by sector

DE0061 (2 disks) PC-Write full-featured word processor pgm

DE0070 ByDesign desktop publisher for WordPerfect delivers design studio power.

DE0080 Breeze word processor with mail merge, dictionary, readability analyzer, print spooling and much more.

DE0090 Power Edit multi-window full featured editor NoteWare the ultimate 16K TSR notepad, unlimited notes, cut, copy, paste, export, full screen editor, word wrap

DE0101 (3 disks) JORJ concise 62000 word dictionary JSpell spell checker

DE0110 Ten essential utilities for Word Perfect 6.0; shrink, browse files etc. Malt adds 90 new keys to Word Perfect for DOS File viewer for major word processors

DE0120 GdSpel spelling checker with a 50000 word dictionary Laser Envelope prints attractive envelopes Req VGA, mouse

File/Directory Managers

DF0010 Advanced Menu System, easy to use, Novell compatible with Syscon like operation & built in powerful features

DF0020 Automenu lets you easily access your frequently used pgms File Finder Pack Easy-Edit sumple text editor

DF0030 ElfTree Packs 100's of fast file, directory and pgm management utilities in one package List file browsing utility

DF0040 DF small, fast file mgr with advanced user-defined functions & smart viewers Target file locator & manipulator

DF0050 Stupendos replaces DOS commands with pull down menus Xtree file/directory magr lets you run, delete, rename, view, move, list, or show files

DOS Utilities

DU0010 Help! is a DOS shell for copy, erase/format/move/locate/view/print & more.

DU0020 Tickiex advanced scheduler, tickler, & calendar to track time and money.

DU0030 Toggle Clock memory resident clock TimeSet ModPlay plays Amiga sound tracker files on a PC

DU0040 ASCIFont creates title screens Use mouse instead of arrow keys Type with 1 finger Draw color boxes in .bat files

DU0051 (2 disks) PC Magazine Labs benchmark looks "under the hood" of your machine and tests its components.

DU0060 Extensive computer diagnostic Frank 387 emulation DMP Printer spooler

DU0070 Pretty Good Privacy - a high security cryptographic software Today tells what historic things happened on this date

DU0080 LabelIt labeling pgm prints multiples of same labels On-Side sideways printing XDir replaces DOS dir command

DU0090 Mr. Label full-featured labeling pgm for laser, dot-matrix. Printer utilities: LQ, Letter Head, Edit Char.

DU0100 DOSMax & FreeLoad lets you maximize low mem usage Doc2Coon make self-browsing text files PCopy better than DOS Copy HI displays random quotes

DU0110 HyperWare speed tools optimize Disk, Keyboard, & Screen access time. Buffit screen text capturing pgm.

DU0120 Memory Management Kit for DOS 5 Silence pc speaker Sleep your PC Silvester/Tweety & Pink Panter clocks

DU0130 Asq analysis/training product 3D benchmark for VGA Boot from B: CMOS setup Drive Table Epson Set

DU0150 ReSume helps create effective resumes BlaquePad is a PC address book Financial Cookbook for business & home.

DU0160 Resume Shop helps you prepare effective resumes ProRoi name, address & phone number rolodex

DU0170 4Print/4Book for Laserjet, Desk jet prints 4-6 pages per sheet single, double sided & prints great-looking booklets Bat2Exec compiles batch files (ASM src)

DU0180 FormatMaster floppy disk formatter Professional Optical Character Recognition Background Disk Formatter

DU0190 JetPilot controls Laser printer ZapCode printer control ZipCode64 prints zip/zip+4 postal codes on 24 pin printer

DU0200 Control Panel shell with menu, disk, DOS, desktop & communication utilities for fast, easy software/operating system control

DU0210 Batch Enhancer adds sound, color, box, menu, directory control to batch files DiskBase software info, database

DU0220 xDisk creates variable-size ram disks RighTime corrects clock errors System configuration information TymSet for PCs that drift 20+ seconds per month

DU0230 Amiga Emulator runs Amiga software on PC 28 PC Magazine utilities on video, memory, hardware, printer, RS232

DU0231 (2 disks) PC Magazine Utilities Disk with 25 utilities for PC, screen, file, hard disk, key board, & printer management

DU0240 Findum finds duplicate files Scrollit captures color text screens Mac-In-DOS reads/writes Macintosh 1.44mb disks SrDisk resizeable ramdisk

DU0250 NeverLock copy protection removal utility Skull Prompt EGA/VGA fonts for DOS applications Where finds any file on your drives; Also finds duplicate files.

DU0260 Memory Management Kit DOSamatic powerful multi-tasker BatCom converts .bat to .com Snoop aids in remote tech support & on-site problem analysis McbWalkr for debugging/learning other TSRs

Virus Defector/Remover

DV0010 VirusScan by McAfee Associates

DV0020 Clean virus remover by McAfee

DV0030 Vshield memory resident virus prevention pgm The Virus Terminus shell menu utility for VirusScan & Clean.

DV0040 F-Prot anti-virus pgm halts virus infected pgms and searches files for viruses

Children Education

EC0010 EGA Mouse Paint Spell Castle Brandon's Lunchbox (USA Boxes)

EC0020 Kid Paint EGA VGA paintg pad

EC0030 Word Processing for Kids Balloon Speller

EC0040 Adventure Math educational game frm Epics Megagames

EC0050 Animals Math Children's Graphics Pgm Dad's Choice

EC0060 Mom's Math Word Flash Hangman for the Super-intelligent

EC0070 Preschool educational pgms Teach-A-tot USA TellTime TypeTest

EC0080 Magic Crayon KinderMath

EC0090 EGA Coloring Book with over 500 colors/patterns to use to color pictures

EC0100 Beginning Sound Animated Brontosaurus Walk Brandon's Lunchbox

EC0110 123-Talk with human voice VGA Concentration tests memory skills.

EC0120 ABC-Talk with human voice teaches children (1-8) to talk, alphabet, read, write, spell, use a computer. Req EGA/VGA

EC0130 Spellbound! kids spelling tutor

EC0140 Educational pgms in music, algebra, songs, chemistry, spelling bee, etc.

EC0150 Choose baby's name Number Magic Hangman, Alphabet, Animals, ClockGame & Mosaic educational pgms

EC0160 Play 'N' Learn

EC0170 Word Gallery helps children 3-up associate words with the objects

EC0180 Hangman for Students helps children learn their grade school level words

EC0190 Funny Face II allows kide to combine noses, ears, hairs, etc. to make faces

EC0200 School-Mom educational tools for ages 4 to 14. Coins in the Box

EC0210 Picture Magic Work Book Strudle drawing and painting pgm

EC0221 (2 disks) Talking Teacher For Sound Boards with human voice teaches children 1-17 alphabet, read, write, & spell

EC0230 Origami teaches how to fold a piece of paper into various shapes Airplane prints folding patterns for paper airplanes

EC0241 Early Spanish Bi-Lingual educational pgm with real human voice for children age 1-14, Req EGA+,sound board

EC0250 ABC Fun Keys nursery rhymes, & games for preschooler Megan's Matching Gamk for windows challenges small children to match pairs of objects

EC0260 World statistical atlas for 160 countries Ann's Math Tutor teaches/tests addition, subtraction, multiplication, division

General Education

EG0010 Hangman Basic, Educational, Literate and Personal levels MathPlot mathematical function plotting system

EG0020 Periodic Table for Windows Physics for students

EG0030 Type Trek typing tutor in game format Acrostix & Kaypro games encourage creativity and thinking

EG0040 Computer Trivia Quiz Life

EG0050 Super Pro Word Search allows a person to create "circle-the-word" puzzles

EG0060 Series of pgms physics and space science pgms Silicon Sky turns your computer into a planisphere

EG0070 Computer Tutorial software

EG0080 science pgms: MoonBeam Solar Hurricane tracker Sunset SKY

EG0091 (2 disks) Electrical reference data base

EG0100 Electric electrical formula calculator MIPS learning pgm

EG0110 PhraseCraze, guess the phrase game CrazyShuffle tests memory skill

EG0120 Brainscape adventure game in Neuroanatomy The World Name game Crime Lab investigations TriSkelion

EG0130 Science pgms: Astronomy Astrosoft Computerized Ephemeris

EG0140 Science Software Package for science education students

EG0150 Science pgms: StarView Jupiter Satellite Simulator/Charter StarFind

EG0161 (2 disks) KwikStat statistical data analysis package

EG0170 Oxy-Acetylene Welding course ImpShell expert system developing pgm

EG0180 EzCosmos sky plot software View sky Astro astronomy pgm

EG0190 SkyGlobe fast, fun, and easy astronomy pgm

EG0201 (3 disks) Navigation Series for aid in boating and sailing activities

EG0210 R U ready for business calculus & calculus 1? from UA Mathematics Dept. Calculus for Windows

EG0220 Math Castle educational math game with 40 play levels Voyage to the planet earth geography knowledge EGA game

EG0230 What's In That Box? shows how your computer works. Req graphics Oakflat Nuclear Power Plant Simulator

EG0240 Electrical-Electronic Formulas Electronics Tutor graphical pgm, CGA+

EG0250 PC-Jigsaw draws & shuffles a picture, you re-make it Moon Manager: locate moon mountains, valleys, Apollo sites

EG0260 AlgebraX tutor with 5 levels of difficulty, and step-by-step problem solutions HyperGeo investigates 4-D hyperspace. First course in computer system and use

EG0271 (2 disks) Math Helper for lower division college/high school students, teachers High School & College Algebra

EG0280 Physics teaches properties from a graphical physics property chart, like periodic table Solve differential equations

EG0291 (2 disks) Maplt world map Are you ready for college algebra?

EG0300 Professor Weissman's Statistics Tutorials SOS Statistics tutor

English/Foreign Language

EL0010 German Language Teacher

EL0020 Japanese for Business and Travel

EL0030 Advanced English Computer Tutor is an innovative English language style tutorial Atlas: computer-based USA Atlas

EL0040 Galcusei Japanese language tutor, helps Japanese language students master the Japanese grammar/usage. Req. EGA+, HD

EL0050 English language teacher with flash cards, 7500 word vocabulary builder, spelling teacher Spanish I tutor with 100s of word combinations & verb conjugation forms

Typing Software

ET0010 Typerite imitates electric typewriter Touch Type Tutor

Personal Finance

FP0010 Express Check is a full-featured checking account & budget manager.

FP0020 Amortize calculator & table

FP0030 FastBuck Financial calculator

FP0040 Amortize Loan analysis Dealership sales analysis Auto loan analysis

FP0050 Capital Needs (insurance) Planner Various financial calculators

FP0060 Capital Gainz portfolio manager

FP0070 MarketPlus Technical Analysis Software; a full-featured investment mgr

FP0080 BankBook home finance manger CashTrac personal finance mgr

FP0090 "Home Management II provides checking acct mgr; personal budget planner; loan analysis, stock & portfolio mgr; Income Protection (Disability) Planner

FP0100 FamTrack home finance manager CheX checkbook pgm

FP0110 Checkbook Management for personal & small business checking accounts Loan Warrior amortization pgm.

FP0120 MultiAssistant multi-function softwr for home/business CheckBook mgr

FP0130 PC-Portfolio analyses your stocks, bonds, mutual funds, etc. CheckStar checkbook, income/expense mangment

FP0140 Wall $treet personal investment record keeping software Mark's checkbook+

FP0150 The Time and Money Financial Monitor Genesis The Checkbook Pgm

FP0160 Refund tracks manufacturer's refunds Varamort amortization pgm ExAcct Financial Account Record keeper

FP0170 Cash Control checkbook management system ZCalc loan calculator

FP0180 Exchequer checkbook pgm Credit Interest Check LoanStar

FP0190 Qpacs Quick Personal Accounting system LoanPmt loan calculator

FP0200 Pc-Bill Master Loan calculator

FP0210 AM-TAX the 1992 Tax Software

FP0220 PC-Money maintains personal, & small business financial/tax records. PC-Flow personal cash flow budgeting system

FP0230 The Inside Secrets Of Credit Repair CarTrack tracks your automotive maintenance Calendar displays the calendar

FP0240 File Express powerful easy-to-use database management for name/address lists, inventory, accounting, and other data.

FP0250 Homeware home inventory, car expenses, shopping list, name/address list pgm RemuttMe scheduler & reminder

FP0260 Personal Record Keeper system Portfolio Analysis Worksheet for Lotus 123 Turbo Check

FP0270 Fair Warning! smart tickler file for people with many events to keep track of in their lives (like Birthdays, Anniversaries...)

FP0280 Home Plan lets you draw, save, edit, print house plans. Req. VGA & printer FoneBook easy to use address book

FP0291 (3 disks) Home&Business Legal Guide & Forms Generator; 200+ legal forms for wills, living trusts, real estate, business, corporate, partnership and more. Req HD

FP0300 TreePlan decision tree for structuring risky decisions. Solve for optimal strategy NameBase address,phone, note mgr

FP0310 Tax Check estimates IRS tax liability Mortgage Reduction: Giant savings for homeowner How to start home business

Apogee Games

GA0010 Secret Agent top notch EGA VGA action/adventure arcade game

GA0020 Dark Ages arcade/adventure game with superb graphics and animation

GA0030 Commander Keen - Episode 2: Invasion Of The Vortices

GA0040 Commander Keen - Episode 6: Aliens Ate My Baby Sitter! adventure-arcade

GA0051 (2 disks) Spear of Destiny: VGA commercial successor to Wolfenstein 3D!

GA0060 Duke Nukem - Arcade/adventure game that compares to the Sega Genesis game

GA0071 (2 disks) Wolfenstein 3D - A high-action arcade/strategy VGA+ game

GA0080 Wolfenstein 3D utilities: map editor Cheat, never die wall editor maps

GA0090 Utilities for Duke Nukem: Duke Nukem Extension Set 1 &2 Maps

GA0101 (3 disks) Major Stryker with triple-parallax scrolling adding to the illusion of depth and danger. AdLib & Sound Blaster. EGA/VGA

GA0110 Arctic Adventure arcade game

GA0120 Crystal Caves EGA arcade game

GA0131 (2 disks) Cosmo's Cosmic Adventure arcade game, with amazing 3D feel

GA0141 (2 disks) Enigma's Nightmare II for Wolfenstein3D version 1+ is new set of harder levels with more guards, action, blood

GA0150 Gory Graphics replacement for Wolfenstein 3-D version 0; Make guards heads explode & dogs lose a gallon of blood!

GA0161 (2 disks) Commander Keen in Good-bye Galaxy adventure with EGA, VGA graphics, smooth animation! AdLib music

GA0171 (2 disks) Street Fighter II replacement graphics for Wolfenstein 3D version 1.0; Fight Ken, Ruy & E Honda.

GA0191 (2 disks) Bio Menace, VGA, total action, kick butt, shoot everything that moves, adventure. AdLib music.

GA0200 Paganitzu puzzle-oriented CGA EGA VGA arcade/adventure game tests your mind more than your finger speed.

GA0211 (4 disks) Enigma's Nightmare III alternate playing maps & graphics for Wolfenstein 3D version 1.4 with more guns, more guards and more difficult levels

GA0221 (2 disks) Monster Bash "Lite" arcade adventure. EGA/VGA; 3 skill levels

GA0231 (4 disks) Halloween Harry VGA action arcade game. cool cinematic, SBlaster music, superb animation. Req 386

Board/Card Games

GB0010 Picture Puzzle makes you put back together a scrambled picture Puochle

GB0020 C_Chess Chinese Chess Cyber Chess with sound, VGA animation

GB0030 Video Vegas casino games of Lucky 7 Slots, Draw Poker, Keno & Black Jack Baccarat card game Crazy Eight

GB0050 Craps EGA/VGA casino game Monopoly VGA board game for the family

GB0060 Poker Galore! simulates Las Vegas poker machines Two-Bit-Poker casino game Lucky 7 slot machine, EGA+

GB0070 PC-Gammon challenging EGA VGA backgammon game Power Chess Domino 2 person, 11 draw, 1 spinner game

GB0080 Draw Poker Tournament Req. CGA/EGA Keno simulates a Vegas keno machine Lowball Poker Casino style game

GB0090 Smart Gambler for people who play to win. It explains & gives strategies Analyze your play. Req 720k disk space.

GB0100 Ultimate Baccarat a fully animated casino card game and gambling school with tutor. Req 540K, EGA/VGA

GB0110 Alien Poker play against crafty aliens Req VGA,mouse Coffee Break VGA crazy8s & 52-Pickup

GB0120 Better Than Nevada Slots with the feel and excitement of real slot machines. (VGA) Two-Bit-Poker casino game (CGA+) Crazy Eights (VGA)

GB0130 Solitaire Suite with 7 classic games: Calculation, Concentration, Idiot's Delight, Midnight Oil, Monte Carlo, Osmosis, Royal Cotillion. Req EGA/VGA, mouse

Epic Megagames

GE0010 Brix VGA action-puzzle game.

GE0021 (2 disks) Overkill arcade game

GE0031 (2 disks) Kiloblaster arcade game

GE0040 Supper ZZT arcade-adventure journey through a 7- level monster zoo

GE0051 (2 disks) Castle of the Winds fantasy roll playing game for Windows 3.xx

GE0061 (2 disks) Solar Winds fast-action game with VGA graphics, musical sound track

GE0071 (3 disks) Dare to Dream: VGA+ adventure game for Windows. Explore many vividly-illustrated areas. Ever-changing sound

GE0081 (3 disks) Ken's Labyrinth: 3D virtual reality VGA arcade game

GE0091 (4 disks) Zone 66 ultra high-tech cinematic arcade game with Sound Blaster & Gravis sound track for 80386+ VGA PCs.

GQ0060 Jill of the Jungle 256-color VGA arcade-adventure game

Martial Arts

GM0011 (3disks) 4d-Boxing, true-motion

GM0020 Kungfu Louie

GM0030 -Sierra Boxing arcade game -Stick Fighter II martial arts game

GM0040 One Must Fall arcade martial art VGA game with excellent animation & sound.

GM0051 (2 disks) Executioners fighting game for mortals with guts to play. Awesome VGA graphics; Req. 386+, 1mg exp mem.

GM0061 (4 disks) Sango Fighter arcade action game with superb 256 color graphic and realistic motion. Req 640K, VGA, HD

Arcade Quality

GQ0010 Moraff's Escapade game with 5 versions for many VGA/SVGA systems

GQ0020 -JumpMan Lives arcade VGA game -Moraff's Pinball for EGA/VGA

GQ0030 Bolo Avengers I mind boggling strategy game. Req EGA/VGA.

GQ0040 Space Goose action arcade game

GQ0051 (2 disks) Galactix VGA space arcade game with Sound Blaster sound

GQ0070 Fairy Godmother arcade/logic game of magical mayhem VGA+

GQ0101 (3 disks) The Catacomb Abyss captivating 3Dfantasy trip to other dimensions

GQ0110 -Bricks -Fortune -Kong -Pango -Golf -Pitfall -Pyramid -3Demon

GQ0130 -Dungeons of Drakkhor EGA+ arcade game -Moraff's Entrap logic game -Dragons Shard EGA/VGA fantasy role playing

GQ0140 Moraff's World the ultimate VGA/SVGA dungeon game, 25,level deep dungeons with monsters with fangs & claws

GQ0150 -Bolo Adventures III mind-boggling strategy game -Sand Storm VGA

GQ0160 -Stelcon 2469 Stellar Conquest the ultimate space strategy/war game! -Dr. Rudy arcade/action Block-Out type game

GQ0170 -Clyde's Adventure on his quest for lost treasure through 16 deadly castles -Lavacap exciting arcade strategy game

GQ0181 (2 disks) Megatron VGA real-time 2 player strategy game (1or2 computers) find & destroy your adversary before he does.

GQ0191 (2 disks) GateWorld Volume 1 arcade adventure game with story and epilogue sequences. 2 Megs graphics, Ad Lib

GQ0200 -Space Blaster adventure game -Clyde's Adventure in search for treasure through deadly castles Req EGA/VGA, 286+

GQ0210 Corncob 3D air combat VGA+ game, check your altitude gauge, then steel yourself for another run at enemy. Req 80286

GQ0220 -PC Pool -3DPool -2Player Volleyball -Archery -Bowling -Tennis

GQ0230 -Robomaze II arcade action game -Dragcity USA truck racing game -Tapper arcade game -Bouncez pong type

GQ0240 Risky Woods arcade action game excellent, detailed pictures. Fight monsters.

GQ0250 -CD-Man Eats the dots while avoiding the nasties -Mario VGA arcade game -MineLayer colorful arcade game

GQ0260 -Battleship VGA game, mouse interface, lay mines -Space Blaster VGA space adventure -Life EGA/VGA game

GQ0270 Astro Chicken VGA arcade game

GQ0281 (3 disks) The Lost Vikings VGA/SVGA arcade action game, get the 3 Viking dudes through the levels. This is team work! game

GQ0290 Baron Baldric exciting, hilarious arcade game with most outrageous characters. Help the Baron recover his family treasures .

GQ0301 (3 disks) Oxyd game of exploring and discovery introduces friction, velocity, gravity, electricity, magnetism, lasers & more.

GQ0310 -Scorched Earth VGA artillery game for up to 10 players -Miramar fully operational Jet combat simulator.

GQ0320 JetPack arcade action VGA game 100 levels of treacherous dungeons. S Blaster

GQ0331 (2 disks) Adventures of Maddog Williams interactive VGA animated adventure game.

GQ0340 -JumpJet: Fly your jet &destroy enemy aircraft/targets -Moraff's Pinball for EGA/VGA -Chopper Commando

GQ0350 -LHX attack chopper in exciting desert attack mission. CGA EGA VGA -Nova Strike space flight simulation combat game. Req. 286+, VGA and mouse.

GQ0360 -Ninja arcade martial art game -Avoid the Noid arcade game -Alive Sharks

GQ0370 -Lamers arcade game -VGA Trek arcade to hit enemy ship before it cloaks.

GQ0380 -Crusher VGA adventure arcade strategy game -Turoid VGA ball-paddle type game -Space Legion Academy training

GQ0391 (2 disks) -Lollipop arcade VGA game Req ext/exp memory -Mustang fight an array of evil enemy -Line Wars 3D space war game uses modem or direct link

GQ0400 -BipBop II incredible 3D VGA digitized animation arcade game -Balloonz fly thru deadly star fields, destroy enemy ship

GQ0410 -Pinball Dreams VGA with 4 different pinball tables, ignition, steel wheel, beat box, realistic ball movement & tilt, adlib/sblaster/roland -Dr. Mario arcade game

GQ0421 (2 disks) Billy The Kid- 3D VGA western action arcade game; Req VGA, 286-16, 530kb Bounce Zone a 3D ping pong

Sport/Recreational Games

GR0010 -Bass Tour fishing game the ULTIMATE fishing game. Fish a 3 day tournament in a fully rigged bass boat. -BassMap for Bass Tour

GR0020 -The Sports Trivia Desktop Calendar will each day bring you a new page of sports trivia -Miniature Golf game -3D pool game with a standard rack of 15 numbered balls and a cue ball

Strategy/Text Games

GT0010 World Empire strategy game

GT0020 Hugo II, WhoDunIt? superbly animated 3-D EGA murder mystery game with a couple of fiendish twists and humor

GT0030 -Notrus game to strategically place the falling blocks -Solitile solitaire

GT0040 -Mahjong VGA Req. 640kb, mouse -Pirads blackjack solitaire game

GT0050 -Jeopardy -Wheel of fortune

GT0060 -Crossword puzzles set 1 and set 2 -Wordlok makes crossword puzzles from its internal list of words

GT0070 -Hollywood Trivia -Cross Of Insanity -Mahjongg solitaire game

GT0080 -Moraff's Morejongg VGA SVGA Mahjongg -Atomic Tetris two player Tetris game -Bananoid breakout-style game

GT0090 -Bones text-game of suspense -Dnd fantasy role playing game -MazeWars -OilWell game of strategy & luck -Othello board game -Quatris 3D Tetris game

GT0100 -Hunt For Red October action-strategy game -Frigate strategy game to destroy Soviet ships -Gemini tank

GT0110 -Beyond Columns Tetris-type game -EZ Slider to re-arrange squares -Frac 3D Tetris-type game -Idiot's Delight solitaire

GT0120 -LadderMan fun-filled game of logic, planning & problem solving -Isle Wars to conquer islands Req EGA/VGA

GT0130 -Scorched Earth artillery combat game -Sherlock game of solving puzzles

GT0151 (2 disks) -Hexxagon animated strategy game, 1meg VGA graphics, digital sound -Idiot's Delight solitaire -Pac-Man

GT0160 Tornado combat flight simulation with high speed & firepower on realistic 3D European terrain. Req 386, VGA, mouse

GT0171 (2 disks) VGA Planets is a graphical multi-player play-by-turn space combat game for one computer, BBS or Network. Req VGA & HD

GT0180 -3D Trek - stop ship's destruct sequence -Ground War two-player (Allies vs. Iraqis) tank war; Req VGA -Oil Cap arcade

Hard/Floppy Disks

HD0010 -CopyQm disk duplicating software -TeleDisk the diskette fax machine

HD0020 -DiskTrak keep track of files on disks -FFit copies group of files to fill a disk

HD0030 -Disk Organizer -Format in background -Disk-at-a-Glance -FastCopy -HD Info -NewChk 3D

HD0040 -Disk Copy Fast -SmartDrive replacement with more conservative disk caching -NFormat formats 1.44M to 1.7M & 1.2M to 1.5M Boot2C ignores A: drive disk

HD0050 -FormatMaster fast floppy disk formatter -Initiates low-level format of IDE drives -Find HD Type -low level format IDEs -Setup utility -DiskMeter benchmark -Relocate IDE -Identify IDE

Health and Diet

HF0010 -The Better Diet Analyzer to improve your performance or lose weight -The Professional Analyst reveals your psyche

HF0020 -The Grocer simplifies grocery shopping. Easily create & update grocery list -Personal Recipe CookBook (recipe file management) with 3x5 & 4x6 recipe cards

HF0030 -NSL Diet Analyzer Keeps track of your eating habits -Doctor (Internist) a Doctor-on-disk pgm

HF0040 CompuChef cookbook / nutrition guide with over 100 traditional American recipes. Create and store up to 2200 of your own recipes. Easy recipe storage/retrieval

HF0050 Your Birthday Almanac makes a commercial quality print of: What happened the day you were born? A treasure of info about your birthday. Req laser printer/deskjet

HF0060 -Doctor On Disk - keep a close check on many symptoms/illnesses -Palm Reader shows palm lines/their meaning CGA+

HF0070 Meal-Master Recipe File System lets you type a meal name and see how to make it. Type one ingredient and you will see all the foods that can be made with it. Shows all the meals for any food category

HF0080 -AeroChart aerobic exercise log book/graphing pgm -Nutriton Analyst: creates a diet plan that meets nutritional needs

HF0090 -Noach genealogy pgm prints family-trees -Personality Analysis

HF0100 -Ez-Tree Genealogy prints ancestral, descendant charts -Me & My Metabolism examines basal metabolic rate.

HF0110 Cumberland Family Tree genealogy pgm, pull-down menus, help, user-definable event fields, flags, notes, word processor, search, standard/unique reports

Music/Sound Library

MS0011 (2 disks) WAV sound files for Windows 3.1 from various sources

MS0020 Bach organ music for AdLib, a library of 58 Dover Publications music files

MS0030 -Note by Note plays notes from your sound card or PC speaker -Airwolf Theme -Scream Tracker Module Player

MS0040 -Whoop It maximizes Windows sound capabilities -Collection of MIDI files

MS0050 -Voice Blaster Jr. for Windows plays midi and voc files -Sound Blaster Pro drivers for Windows 3.1 -Tapi for SBlaster

MS0060 -FM driver for Windows -Sounds from Star Trek -SBlaster drivers for Windows 3.1 -Xmas songs for AdLib

MS0070 -Surf WAV audio toolbox -CD-Box plays music files on AdLib and SoundBlaster in 256 colors with animation -Replay plays 8bit digital audio on PC speaker

MS0080 Mod music files: -12War -Bass Feeling Funky

MS0091 (3 disks) -WAV sounds from "Star Trek II: The Wrath of Kahn" -WAV Sound from "Star Trek IV: Return to Earth"

MS0100 -Spanish sounds & numbers -Parrot VoiceKit voice files -convert MOD files to STM -convert CMF to MIDI -Dual Module Player loads modules into EMS

MS0110 Drum Blaster from Epic Mega games provides room-shaking sound effects and music for your whole family Req SBlaster

Assembly Programming

PA0010 609 kbytes of ASM source codes

PA0020 collection ASM source codes for hardware/software access for the novice

PA0030 -CoreAids -Chips -ExecBeep -Dos31 -FigForth

PA0040 -Files -Assembler -Forth -Hack24

PA0050 -Show -Res863 -Pm286 -PrtScFX -Modem7 -SDir -Screen -RomBios -Printer -ShellAsm -SDF -SavRst -LpMac 1-Search

PA0060 -Toggle Clock -DvIntShr -Interrupt 24 Handler -Pass word protect your system -OptASM fully functional demo -Sniper -StepRate

PA0070 -Assembly language tutor -Assembly Wizard -BatchMan -Dir86 full screen disassembler -Screen code-generator

PA0080 Release -Send -View -Nansi -LS -FM -Emacs -DU -DPU I -DF 1 CtrlAlt

PA0090 -Apple][emulator for 286/386 -Copy ROM to RAM -PCTrace adds an internal trace table to DOS -Increase pc speed

PA0100 A86 Macro Assembler/Debugger

(Q) Basic Language

PB0010 Full Source code for 29 Games

PB0020 -Advanced Function Library -Arrays in basic -ProWindows Lite -Pull down menu -VGA Horse Racing

PB0030 -Financial calculator -Solar data -Mini-Minder rental property manager

PB0040 CPA-Ledger automated ledger & financial statement system (Full Basic src)

PB0050 -ApBasic Compiler very good share ware version of QBasic -Basic to QBasic -Resume helps you prepare a resume

PB0060 -Data Entry -B17 game -Data entry screens -Make Basic pgms more readable -Picture of Beetles -Measure IQ

PB0070 PDS*Base multi-file automatic relational data base system

PB0080 -QB compiler/linker assistant -Quick Banker -QB Hashing -QB dBASE III files -LANtastic support -line editor -QB serial communications -Weather Forecaster

PB0090 The BASIC Wizard's Library

C & C++ Language

PC0010 -Assync Class -C Tool Box -Cipher -Flash Pac C library

PC0020 -Assync communications tools -Jaz C Library source code for 193 routines

PC0030 -RS232 Interrupts -Extended C library -Graphics interface -Tools for C

PC0040 -LiteComm communications toolbox -UNIX like commands for DOS

PC0050 -PC Graphics -Steve's Turbo C Library

PC0060 -Brace check -C-Adventure games -Lessons in C -YACC a C compiler

PC0070 -C database -Do -Hide files -Parser routines

PC0080 -C++ Tutor -C Rules

PC0090 -C Tutor -Concurrent multi-tasker -C declarations

PC0100 DialogPro helps implement user interface -Dialog Box

PC0110 -CRobots -41 C windowing routines -89 video text routines -PullDown

PC0120 -Personal C Compiler -Indent makes C sources more readable -Printing utility -Wild card routines

PC0130 -C window/screen manager -CXL library supplement (PC0141) -TC Windows -Text TSR library -Window lib.

PC0141 (2 disks) CXL The C Pgmmer's Extended Function Library

PC0151 (2 disks) WindowPro screen control libraries

PC0161 (2 disks) The Window BOSS C functions to create & manage text windows

PC0170 -Qwikc Screen Utilities -Screen design utility library functions

PC0180 -CDraw -Colors -Human Interface Manager

PC0190 -Panels for C screen I/O 2-WindowC: high speed wmdow library

PC0200 C-Library from folks at Jet Propulsion Laboratory

PC0210 Over 75 utilities and functions in this package that will improve pgm development in C

PC0220 -Touch -Timer -Tees TSR library -Subs -Spies -Sizer -Upper -ZFormat -Xmodem 1 VDisk

PC0230 -Wrlmage word game -New Clock for kids -MComm asynchronous functions for C

PC0240 -GIF Library -GIF-TIF -Generate Hex code

PC0250 -Convert Pascal to C -Library for virtual arrays -The Warp Graphics library

PC0260 -C++ Tour -CTV-MOD tools for Creative Voice System applications

PC0270 C Tutorial with lots of examples

PC0280 -Unix utilities -WinTool -Timer interrupt de-install routine

PC0290 Omega the complex rogue-style game of dungeon exploration. Search the caves to find them (Over 900Kb C Source)

PC0300 -DB (DataBase) package -DR. FeelGood Dr. Mario-type game -Dump Graphics -Puzzler picture puzzle game

PC0310 -Go -Info -ISAM -ROM -TIF to GIF

PC0320 -Routines for .PAC/.ARC files -See PCX header -VGA Kit -View Icon

PC0330 -Optimizing C compiler for the Motorola 68000 -Bball 3D Beach Ball -BCalc high precision RPN Calculator -BNSLIB Object Module Library Manager

PC0340 -B-Plus BTree indexing file module -cScreen Editor Complete Screen Editor -CPR C Source Code Formatter -Cracker Multiple Pass Disassembler

PC0350 -CSAP: sort & pack directories -C Window Toolkit -Dhrystone Benchmark -Fast Video Interface Routines

PC0360 -Graphics Primitives Library -Heap Sort -Indent Pretty-Printer for C code -Graphic routines for MS C -Mad SZ

PC0370 -Make Object -Random Maze Generator -Modify Norton Guides -NUFind File Find Utility -Debug Techniques For C

PC0380 -C to dBase routines -Date Handling routines -Generates flow chart of c source files -The ClipStac API routines

PC0390 -Check for Desqview -Door Developer kit -Unzip files -Pointers in C

PC0400 -Digitized Voice Pgmmer's Toolkit create and play digitized voice recordings -ViewFont on-screen font viewer

PC0410 -C callable bios routines -Tool box for serial communications -C examples -C coding guidelines -Execute a command line -Show animated pictures

PC0420 -FN32 provides 32 character filenames under DOS -Interrupt 24 handler -Mouse interface routine -C library for reading/writing PCX files

Misc. Programming

PM0012 (2 disks) Text, Adventure Game Toolkit - powerful, professional & easy to use

PM0020 -Seagate hard disks specs -Info on AMI bios -Interrupt calls -Low memory -Intel Opcodes -Pin Assignments

PM0030 BC-Fortran77 compiler, linker, module library & debugger. Req 640kB RAM

Pascal Language

PP0010 -BGI peek -C routines in pascal -Change file attrib. -Comm interface -C to Pascal conversion utility

PP0020 -Error handling -data entry in pascal -Get Declarations -Heap check -Turbo Btree and dBase pgm

PP0030 -Findfile -Getfile -TP enhance -Joy stick -Key View -Linked Lists

PP0040 -Comm toolbox -TSR pgm -Move text blocks -Life game -Pretty printer -Pass functions as argument -Pull down menu system

PP0050 -File pick, popup -TSR Help -TP Info -Timers -3D objects -Mouse -TP Stack -RomCopy

PP0060 -Trace pgms -Window -View disk Tree -Tree traverser -IO & date functions -Show interrupts -Code analyzer

PP0070 -Command line arguments -Asm to inline -Comm call -Dir -Fast write -GetDir -Paths -Music -String library 1-Graphics 1-Multi file search/replace

PP0080 -Piano -Amazing screens -Colored string -Keydemo -Animated screens -OkiGrafx -Flexible disk labeler

PP0090 -Date Link -Complex numbr -Rotate 2Ds -Object mouse -Better Crt unit -Faleic dir routines -Links -Objects unit

PP0110 -TP&ASM Integrated Compile-Time Assembler -Data Entry Matrix -Scroll

PP0120 -Gantt Charting pgm -Infer -WinPascal compiler for Windows 3.xx

PP0130 (Pascal) Software Tools for IBM

PP0140 P-Robots game. Battle robots in a fight with flying missiles, shields, cloaks, and bombs. Includes new IDE (Pascal src)

Windows Applications

WA0010 -Alfred desktop butler -SnagIt puts sharp lookng screen shots in your reports

WA0020 -Windows UnZip -PC Labs Window benchmark -Talking Terminator!

WA0030 -WinTach benchmark pgm from TI -Wave Player plays WAV files & launches pgms -Guitar Scales & Modes -Winchime tells the time using human speech

WA0040 -ClockMan schedules/reminder -FileMan file manager -Foreign characters -FreeMem displays free system resources

WA0050 -Explosive - 16 DOS/Windows screen savers -PaperBoy random wall papers

WA0060 -Explosiv Logo DOS/Windows screen saver uses Gif -FrontWindow file mgr

WA0070 -Multi-Label labeling pgm -Fish screen saver -Dupe deletes duplicates

WA0080 -MicroWerks communications application pgm -Lister text file printer

WA0090 -Super Task Man - replacement Task Manager for Windows 3.1 -IconMaster icon manager/editor -New Eyes watches you

WA0101 (3 disks) Softerm Plus communications appl, terminal emulation, script, file transfer.

WA0110 -UniCom communications appl with many features -IQTest -WinOutline

WA0120 -Zip Manager for PkZip, Arc, LHarc -WinClock -Tynee calculator -WorldTime -SysUse -SuperLoad at startup

WA0130 -Screen Peace screen saver -Background Menu -Icon Frightener -Lister

WA0140 -NewPaper selects random wall papers at startup -WinTide a linear tide clock

WA0150 Rockford! lets you design and print professional looking business cards

WA0160 -Ponter displays/lists Windows fonts -FontView displays soft font characters -FontClean cleans up shareware fonts

WA0170 -FontTabl prints info about any printer font -FntPrn displays & prints a font catalog -FontLoader scale/angle/mirror fonts

WA0180 -Showgif image viewer/catalog manager -WinJpeg image viewer/enhancer

WA0190 -Winvelope utility for printing envelopes -BitFax fax software -Whiskers assigns functions to keys and mouse buttons -WinRoach hides under windows

WA0200 -Arc Master compressed-files manager -Folders create/manage file folders

WA0210 Astronomy Lab: create animated events, astronomy reports/graphs

WA0220 WizManager powerful add-on to File Manager; colorful buttonbars, a command line box; print tree/directory, custom menus,...

WA0230 -A Project/Event Planner for quick project planning & activity scheduling -Art Show for .BMPs -BizWiz calculator

WA0240 -CRT adjustment tools -Joy stick driver -Replace cursor with animals, people -Font Viewers & font information

WA0250 Windows 3.1 hi-res 256 color display VGA/SVGA drivers form Microsoft

WA0260 -FormCode/Gen- Design forms & mailing labels & print from dBase pgms -PowerBar/Write adds power to Windows Write -PrintEnvelope with graphic images

WA0270 -SecureGroup protects pgm manager groups with passwords and restricts pgm manager functions -Seascape screen saver -Win Outline outline editor

WA0280 -Metz Desktop Manager -ToWav converts files to sound files -BizWiz Financial Calculator -CPU usage meter

WA0290 -Case Liner for audio cassettes -DiskMan prints professional labels; catalogs disks -SideBarList desktop organizer

WA0300 -TrashMan puts directory/files in a trash can till you decide to restore, delete them!; attach sounds 2 events -Talking clock

WA0320 SoundWAV lets you assign files to sounds, play the sounds; select sounds files randomly or sequentially with no overhead!

WA0330 -Fingers N Toes calculator, run macros, find mortgages payments -WAVawa to play/edit sounds files -Wave Player can launch pgms; restart Windows , and more

WA0340 -WinClean removes Windows application pgms -Zipman shell for PkZip Lzh, Arj, and Arc. Req 386SX, VGA+ -NoNag for screens that ask to press a button

WA0350 -Achievement Planner calendar, appointment,day/project planner, contact mgr. -Torque does bitmap performnce -WavEdit

WA0361 (9 disks) Painless Accounting for Windows; general ledger, accounts receivable, accounts payable, any businesse

WA0371 (3 disks) Wall Street the Bottom Line for Windows; for stocks, bonds prec. metals, etc, a must for investor/CPA.

WA0381 (2 disks) -Gradebook for Windows for professional educatr -Fontoff font mgr -InControl install/remove softwrs

WA0390 Fatty Calc a calculator w/tape, like a spreadsheet; edit, print, save, retrieve tape files WTape 3.0

WA0400 Windows Password protected screen saver, Others can leave U messages.

WA0410 -Improves Win386 enhanced mode, 736k DOS sessions -Exit Windows, run a game etc, then re-start Windows Req BWCC.dll Display/kill loaded modules

WA0420 -Chartist flow and org charting package for Win3.1, multi font, symbol & border styles -Areacodes database for 600 major cities. add/delete cities FileDump

WA0430 -Zipit 3D shell for PkZip 2.04, Req VBRun200 -Piano for Win3.1 turns PC into an electronic piano; Req sound card -NoiseMaster editor for WAV, VOC files -Surf's Up! attaches sounds to programs

WA0440 -MoneyMath financial analysis tools for Win3.1 -WinFund allows electronic access to funds for quotations, balances & transactions or automated fund transfer

WA0450 -Astro-Lite Astrology for Win 3.1 pops up each morning and give you your horoscope (386+) -Label Wizard all-purpose labeling pgm, cassets, disks, address, etc.

Windows Fonts

Sets of 5 (5 1/4") disks filled with TrueTypes
WF0211 (5 disks) **WF0221** (5 disks)
WF0231 (5 disks) **WF0241** (5 disks)

Sets of 5 (5 1/4") disks filled with ATMs
WF0311 (5 disks) **WF0321** (5 disks)
WF0331 (5 disks) **WF0341** (5 disks)

Windows Games

WG0010 -BlackJack -Battle Grid like the classic Battleship game -Yachtzee

WG0020 Blackout -Blitzer Helicopter

WG0030 -Star Trek -Hearts card game

WG0040 -Cannonball -Chomp -Tetris

WG0050 -Card Game -Towers -Mines

WG0060 -GNU Chess -Herma maze game -WormWar

WG0070 -Taipei -Yachtzee -Black Jack

WG0080 -Win Jack -Win Trek

WG0090 -Backgammon -EG space war game -Slot machine

WG0110 -Box World with 100 difficult levels -Pipes - lay pipes to keep the liquid flowing -Checkers game for windows

WG0120 -Roulette -WinPoker video poker game -Bang!cannon-fire -Neko kitty

WG0130 -Jewel Thief! -Blackout -WinFight gun fight game -Puzzles

WG0140 -4Play is a 4x4 grid tic-tac-toe -Cribbage card game -Hyperoid shooting

WG0150 -Warheads stop enemy missiles before they reach cities -Lander real-time simulated lunar landing -Magic Domino

WG0160 -Missile Master action/arcade game; digitized sound effects. -WinChess

WG0170 -Atlantic City Blackjack lets you develop and test new Blackjack strategies -Cell War game -Ms. Chomp arcade game -Simone based on the old game "Simon Says"

WG0180 -Jpuzzle scrambles BMP files into 4 to 1225 pieces. Jigsaw/sliding play modes Req lmb VGA -Calculation Solitaire

WG0190 -Battles in a distant desert strategy game based on Operation Desert Storm -World Empire II world conquest strategy game, 139 countries to conquer.

Windows Graphics

WP0010 -3D icons -Ant Farm animated background -Awesome collection of icons -Icons for DOS applications

WP0020 ColorView image viewer and enhancer (both 8088 and 80386 versions)

WP0030 -Fractal generator -Convert GIF to icons -Convert icon to BMP -IconDLL builds a library of the existing icons

WP0040 -BBView image converter and viewer -Collection of BMP files -GrabIt captures portions of the screen that you need

WP0051 (2 disks) Graphic Workshop - view, print, convert, color, enhance images

WP0071 (2 disks) -PixFolio maintains & prints catalog of images -Icondraw icon editor -WmGIF image viewer/enhancer

WP0080 Vulmage displays, scales and prints GIF and bi-level/gray scale TIFF files

WP0091 (2 disks) Paint Shop Pro a Windows pgm that will display, scan, alter, print, convert images; capture screen

WP0101 (2 disks) Collection of 1500 icons for Windows and DOS applications

WP0110 -CAD Vantage CAD pgm for Windows 3.1 -Professional Capture Systems screen capturing pgm for DOS & Windows -WallMac Macintosh wallpaper

WP0120 -Screen Thief captures screen in GIF, PCX, TIF, BMP formats -WinPak#1 with 8 Windows 3.1 animated screen savers.

WP0130 -Icon Manager complete set of tools to create, modify, extract, and organize Windows icons -Fractal creator and editor

WP0140 -Fractal Frenzy screen savers display 256color VGA animated fractal scenes -IconWorks full featured icon editor. Req. VBRun300.dll -EyeCon watches the cursor

WP0150 -PhotoLab for Win 3.1 image processing tool to view, convert, modify, & print images -TakeOne Animator for BMPs

WP0160 -Several cool 3D animation ScreenSaver-Manager Req VBRun300 -Nicon Icon Editor, draw, Paint, flip icons

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HOLIDAY Gift Guide

1993 Stocking Stuffs For Amiga Buffs

Gift Ideas To Fit Everyone's Budget

BY DOUGLAS J. NAKAKIHARA

The Amiga poses a unique problem for the computer-gift giver. Because the market is dominated by the IBM PC world, it is often difficult to find Amiga-specific products. You just can't go down to the corner computer store and get Amiga software. However, because in a certain sense computers are computers, there are a lot of things that can be used with all computers, regardless of platform. Each dollar range in the following list will begin with non-platform-specific items and then work their way into Amiga-specific gifts.

Since anyone using the following list may not be an Amiga expert, I'm going to try real hard not to list very specific things like an A2232 Multiserial port adapter. However, if you can find some way to fit a Video Toaster into that stocking, please do so! (No, it is not made by Sunbeam.)

UNDER $20

Protection items head up this price range. Although you can get keyboard and CPU covers made specifically for the Amiga, you can usually get by with the standard one-size-fits-all variety. Don't forget the printer! I recently purchased a keyboard, CPU, and printer set for under $10 at one of the "club" stores. I didn't think I could use the printer cover, because it was made for a dot matrix printer, but it fit perfectly over the top of my HP LaserJet 4!

Mouse pads are always a cool gift. These are adorned with everything from Star Trek pictures to Patrick Nagel-type paintings. I've even seen one that's clear—you can put your own drawing or photograph in it!

If you want to be real practical about your gift, blank disks are great! Check out some of the computer supply advertisers in *MicroTimes*. They offer some super deals on bulk purchases of generic disks, usually in lots of twenty-five, which offer savings of over half the price of name-brand disks. I use generic disks nearly exclusively and have had very few problems. The Amiga uses the same 3.5" disks as PCs, but make sure you get the correct density. Low-density disks are often referred to as 1MB disks and high-density ones are called 2MB (despite the fact they don't actually hold that much data). Don't forget to buy the labels too, if they are not included. In fact, disk labels by themselves are often a well-received gift.

A company called Paper Direct (1-800-A-PAPERS) distributes a great catalog of various paper and label products. You can make eye-catching letterhead, brochures, business cards, direct mail pieces, presentation sets, certificates, disk and tape labels, and much more. They even have a club that you can join—they periodically send you samples of the new papers that they sell. Most of their product line is directed toward those with laser printers, but much of it will still work on a dot matrix printer.

Speaking of dot matrix printers, replacement printer ribbons can make a good stocking stuffer. These wear out over time and it isn't until it's practically unreadable that anyone thinks to replace the ribbon. Believe me, a new printer ribbon can make a world of difference. Another good idea is a printer stand that allows tractor-feed paper to sit below the printer.

Repetitive motion problems like Carpal Tunnel Syndrome are much discussed lately and have paved the way for the introduction of numerous preventative accessories. These include keyboard wrist rests, foot rests, and even mouse wrist rests. To reduce eye strain, a multitude of glare screens that attach to monitors are also being marketed.

Other ideas include screen cleaners, compressed air (great for cleaning a mouse and keyboard), disk storage trays, and disk drive head cleaners.

Keyboard skins are also available, but you'll need one specifically made for a particular Amiga model. These form-fitted covers are so thin and flexible that you use the keyboard without removing them. A excellent safeguard for people who eat and drink while using their Amiga.

DigiPrint, Inc. makes a cool device that will adapt an IBM PC bus mouse for use with an Amiga. They also make an adapter for IBM PC joysticks. It may come as no surprise to you, but the IBM PC world has many more choices and higher quality products for these type of input devices.

Books can also be an appreciated gift. No one should be without one of the AmigaDOS reference books, but there are also many more that cover more specific subject matter like making videos, disk drives, programming, etc. A plethora of video tapes are also starting to appear, especially for—appropriately enough—video-related topics. Amiga animations have also been the subject of a number of video tapes.

$20 TO $50

A comforting answer to a tangled web of extension cords and 1–3 electrical adapters is a surge-protected power strip. Although you may find some inexpensive ones that say they are specifically made for computers, these are not the best to get. Purchase one whose manufacturer guarantees the computer will not be fried in the event of a deadly electrical surge. These cost a little

continued on page 160

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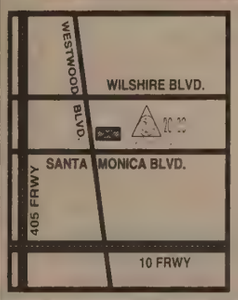

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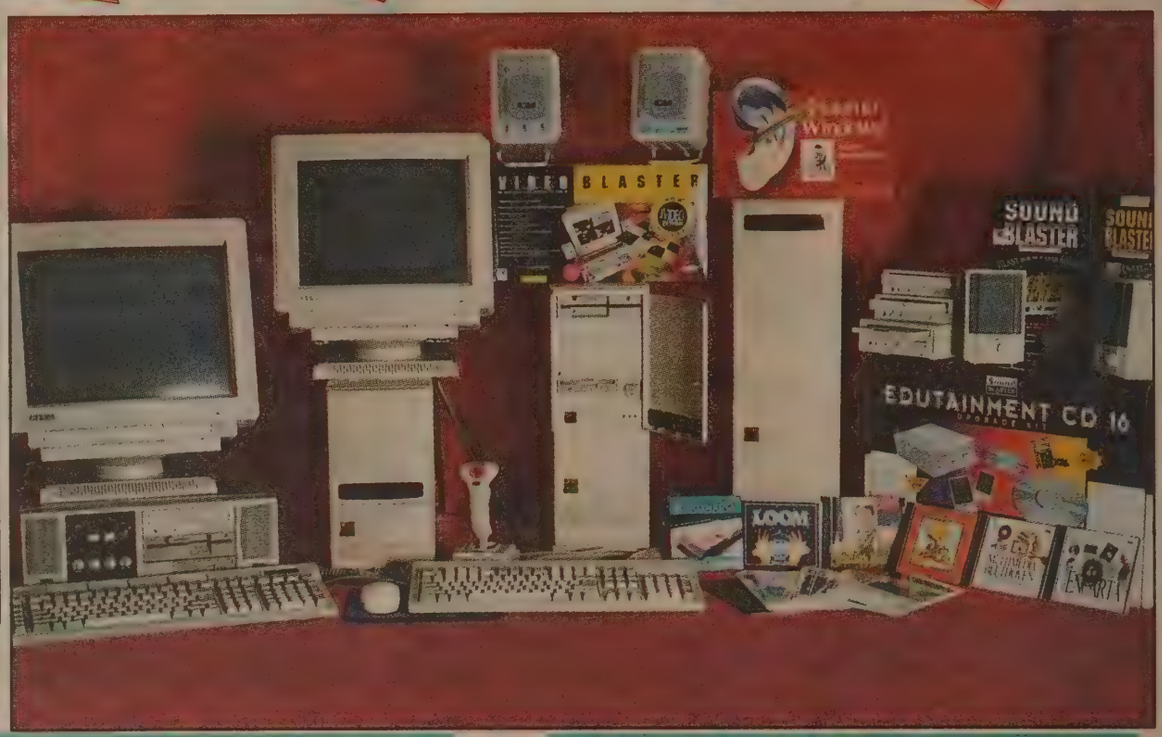

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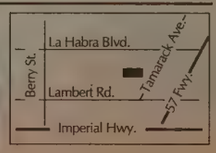

HOLIDAY Gift Guide

Let The (Virtual) Games Begin

BY MICHAEL ROBIN

Every day between three hundred to six hundred people with code names like "Red Scourge," "Athena," and "Whiplash," depart to virtual worlds from the Virtual World Center in downtown Walnut Creek. Their journeys through time and space are made possible by the use of "a complex computer network and ultrasecret interdimensional transportation technology" developed by the Virtual Geographic League (VGL), a fictive organization "founded in 1895 by Alexander Graham Bell and Nikola Tesla with the goal of discovering and exploring other dimensions, or virtual worlds." After almost a century of secret exploration and private funding, the VGL decided to open Virtual World sites to fund further research.

Virtual World sites are more than ordinary VR-based arcades; they mix theme parks, video games, and computer technology. Virtual World offers something for both players and observers, including VGL historical books and photos and a refreshment bar and lounge designed with a turn-of-the-century men's club-like motif.

The Walnut Creek center is a joint venture of Los Angeles-based Virtual World Entertainment (VWE) and Danville-based Reality World Entertainment (which has the rights to open other centers in the Bay Area). VWE was founded in 1987 by Jordan Weisman and L. Ross Babcock III, creators of the BattleTech role playing board game. They opened their first Battle Tech Center in Chicago in 1990 and received additional financial, technical, and marketing strength in 1992 when Tim Disney, grandnephew of Walt, acquired a majority stake.

READY FOR TAKEOFF

"When you sign up as an associate member of VGL and purchase your boarding pass, you choose a call sign, a pilot's handle," explains assistant manager Jan Newbegin. You also select a destination. Currently, Virtual World offers two adventures, BattleTech and Red Planet, on different planets, Solaris VII and Mars. They also hope to introduce new destinations each year. Experienced travelers can vary the conditions of the game, including weather conditions, terrain maps, race routes, and type of vehicles and warriors as well as the mission briefing presentations.

Before the actual launch, you are grouped in a travel party of up to eight players. You receive a mission briefing to learn about your destination and conditions of the adventure. You are led through a decontamination room for a variety of microorganisms. (My travel guide told me this is mostly to remove static electricity before space/time travel.) After this, technicians lead you to a cockpit. There are three sets of eight cockpits. Each set is for one multiuser world. Once the hatch is closed you are "launched" into the future for ten minutes of competition.

If you choose to go to BattleTech, "you are transported to the desert planet of Solaris VII, where Mechwarriors from throughout the Universe gather for gladiatorial combat in 30ft. humanoid war machines called BattleMechs." It is the year 3100. You are inside a Mech, controlling its movements and armaments in your quest for survival.

If instead you opt for the Red Planet, you find yourself in a hovercraft in the middle of a race for your life and freedom. You are on Mars, where, by the year 3100, the Colossal Mining Company has monopolized the workforce and mining operations. Mine workers—conscripted slaves financially trapped in the company town—race hovercrafts through the mines after hours. The winner gets freedom and a ticket home to Earth.

Returning safely to present day earth, you watch a mission review that replays all the interactions that took place. Each pilot receives a printed log of the group's adventure.

BEHIND THE FANTASY

The cockpits consist of "our homegrown computers," says L. Ross Babcock III, cofounder and executive vice president of VWE. "The main screen is our TI-based image generator; the game logic is run by a [Motorola] 68020. The secondary screen is being run by an Amiga 500. We also have our own intelligent I/O board that ties in all the cockpit displays, buttons, joysticks, and foot pedals." In the cockpits, the main

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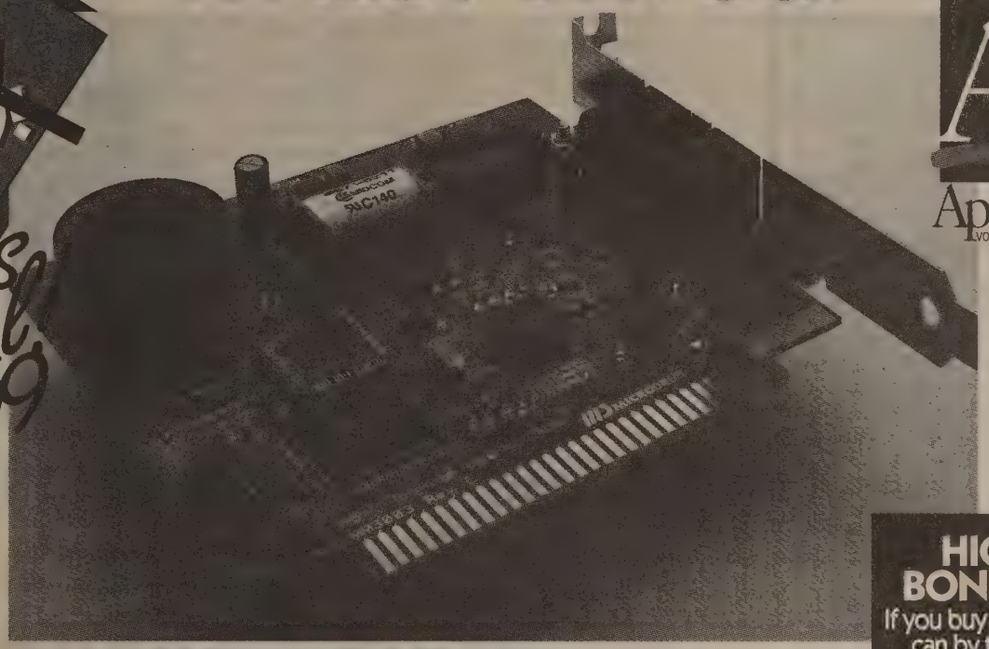

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screen is a 25" monitor that shows the pilot's view from the Mech or hovercraft. The secondary, 13" screen displays the pilot's position and other data.

The sets of cockpits are hooked together via Arcnet to a Macintosh node that replays the scenario information to the players. It also sends back scoring information for the mission review and score sheets. Players' registration, briefing, and debriefing are also handled on Macs. An Ethernet network links all of the Macs in the Center. Except for the addition of a coprocessor and network interface card, Babcock points out that these Macs are all just off-the-shelf. While the original center in Chicago was PC-based, they had persistent problems, particularly in networking. One of the lead programmers was a Macintosh enthusiast and convinced them to try switching. The networking problems disappeared and VWE has remained a Mac-based operation.

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In addition to the Virtual World Center in Walnut Creek and San Diego (its grand opening is December 3), there are BattleTech Centers in Chicago and Yokohama, Japan. On the drawing board for the first half of 1994 are Virtual World Centers in Pasadena, San Francisco (the Cannery/Ghirardelli Sq. area), Denver, Dallas, and Hong Kong. In Houston, VWE is designing a BattleTech outpost that will mostly be part of a larger entertainment center in a shopping mall.

If you are not close to any of these locations, or want to practice at home, Activision will soon be releasing Mechwarrior II for the PC, and there are SuperNES as well as Sega/Genesis cartridge versions. ■

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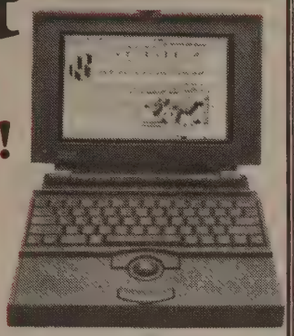

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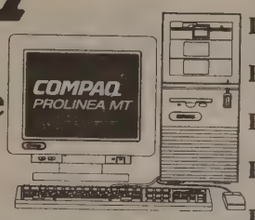

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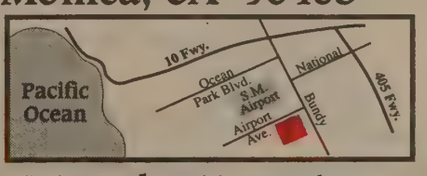

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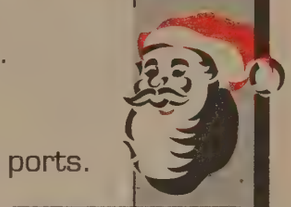

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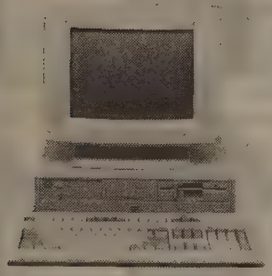

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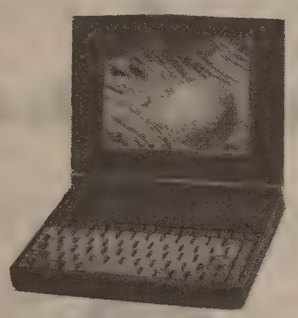

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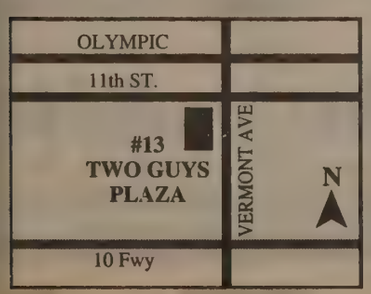

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* Orchid Fahrenheit VL-Bus	$ 70
* Orchid Celsius w/1MB VL-Bus	$155
* Diamond Viper w/2MB VL-Bus	$295
* 15" SVGA Flat Screen Monitor	$110
* 17" SVGA Flat Screen (.26dot)	$520
* VL-Bus IDE cache ctrl. w/2MB	$215
* VL-Bus SCSI controller card	$145
* Adaptec AHA-2742T EISA SCSI	$375
* 340MB 11ms IDE Hard Drive	$ 70
* 340MB 12ms SCSI Hard Drive	$140
* 425MB 12ms IDE Hard Drive	$205
* 545MB 12ms IDE Hard Drive	$335
* Full-tower case w/230UL p/s	$ 25
* Pearl tower case w/300UL p/s	$ 75

VL-Bus System Upgrades

Add prices to the above configuration

* Orchid Fahrenheit VL-Bus	$ 70
* Orchid Celsius w/1MB VL-Bus	$155
* Diamond Viper w/2MB VL-Bus	$295
* 15" SVGA Flat Screen Monitor	$110
* 17" SVGA Flat Screen (.26 dot)	$520
* VL-Bus IDE controller w/IO	$ 25
* VL-Bus IDE cache ctrl. w/2MB	$240
* VL-Bus SCSI controller card	$175
* 251MB 12ms IDE Hard Drive	$ 50
* 340MB 11ms IDE Hard Drive	$110
* 425MB 12ms IDE Hard Drive	$245
* 545MB 12ms IDE Hard Drive	$375
* Mid-tower case w/230UL p/s	$ 25
* Full-tower case w/230UL p/s	$ 50

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* 17" SVGA Flat Screen (.26 dot)	$520
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* 340MB 12ms IDE Hard Drive	$135
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486DX-33 4MB/120MB	$1845	$2445	$3445
486DX2-66 4MB/120MB	$2045	$2645	$3645

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Extra Battery	$105
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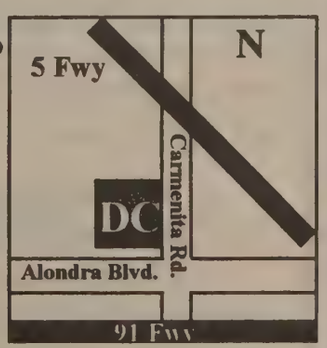

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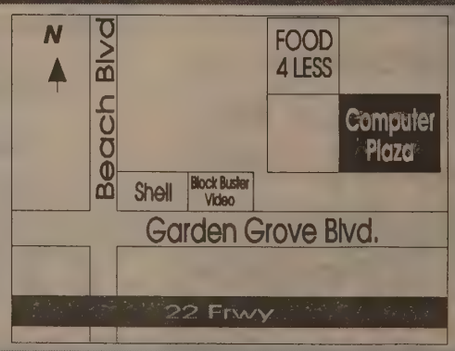

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VLB 486-33/6[illegible] 256K	109
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W D 341MB 13ms	269
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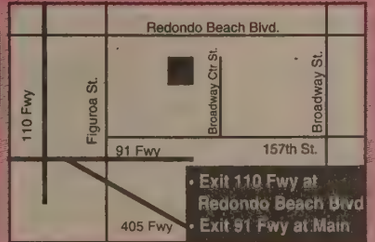

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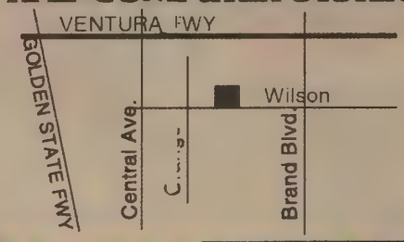

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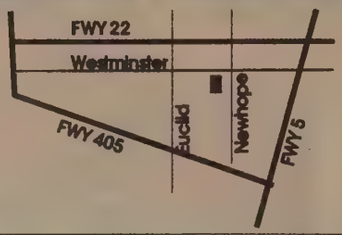

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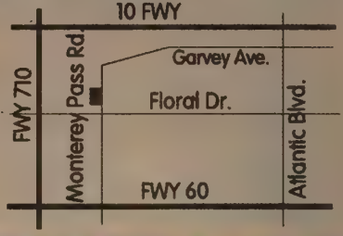

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486DLC-33MHz	$780
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- SVGA Graphic Card w/1MB
- SVGA Monitor (.28dp) 1024x768
- 101 Enhanced Keyboard
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ALI	486DX2-66w/256	1/2Size	110
ALI	486DX-50w/256K	1/2Size	110
VIA	486DXw/256K		115
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- VESA 32 IDE Controller
- 101 Enhanced Keyboard
- Mid-Tower Case
- 2S/1P/1G Port

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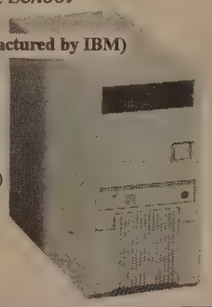

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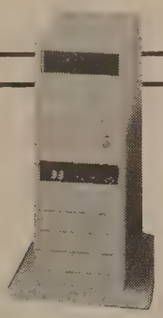

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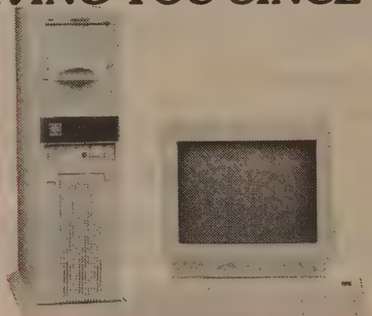

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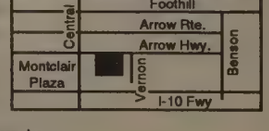

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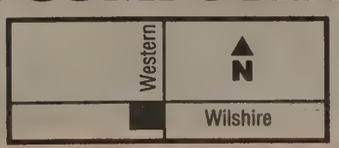

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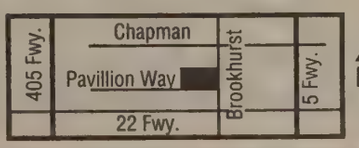

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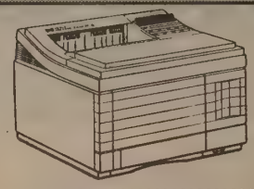

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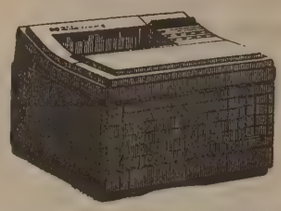

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MICRO MARKETPLACE

The family business: Gary, Doug and Cathy Carlston in the '80s.

Interactive learning for pre-schoolers: The Backyard.

Carmen Library: From computer screen to TV screen, she's become a household word.

Print Shop Deluxe (right): Flagship product's new version

Photos: Broderbund Software

3D Home Architect: CAD for civilians.

"The world has changed enormously, and it's going to keep right on going. People who think, 'Well, that's it, that fixes it,' aren't paying attention. There's a fascinating world of opportunities coming as the information superhighway finally gets connected into the home."

—Doug Carlston

New Horizons In Popular Computing

An Interview With Brøderbund's Doug Carlston

By Mary Eisenhart

When we last did a cover story on Brøderbund Software in the fall of 1985, it was still very much a family business. Founded in 1980 by brothers Doug and Gary Carlston, its initial product line was heavily dependent on games written by lawyer Doug in his spare time and distributed by Gary to a host of small computer retailers.

By 1985, Doug, Gary, and their sister Cathy were fully occupied by a company enjoying the blessings and challenges of its first blockbuster hit, The Print Shop. Waiting in the wings was Where in the World Is Carmen Sandiego?, an educational game based on the brothers' childhood fondness for looking up obscure factoids in almanacs.

In the interim, Print Shop has grown and prospered, expanding into an entire product line of applications and accessories and now including a sophisticated new Deluxe Edition. Carmen has become a fixture in the home, in the schools, online—and perhaps the first software character to have her own show on PBS. And while other early computer-game vendors have either disappeared or migrated to the cartridge business, Brøderbund has had one success after another by understanding and adapting to the needs of the home-computing market, from preschool to productivity.

Brøderbund went public in late 1991 and has continued to report gratifying increases in revenues. These days Doug Carlston serves as chairman and CEO; Gary and Cathy retired in the late '80s because, as Doug says, "it had gotten big enough that it wasn't fun anymore."

Despite changes in the business and changes in the company, Doug Carlston is clearly still having fun. We recently visited Brøderbund's Novato headquarters to catch up on things.

"We're looking for a president," says Carlston. Current president and COO Ed Auer, who came from CBS Interactive Learning in 1987, announced his impending retirement in October, "so sometime in the next year we have to come up with a president."

And then, "There's probably more good product coming in and being developed than I've ever seen before, and that's exciting."

Are you still using the model you were using before, where some products are developed in-house and some comes in from outside?

Most of the ideas come from the outside. Some get spec'd inside.

We now have something like forty-five programmers on staff, so we do a lot of the work here. We find that a lot of time the design community hasn't kept up with the technical changes. Some of the design community can stay cutting-edge on the technical side, but a lot of it can't.

So we basically offer as a service the animation facility, the sound facility, and the programming facility. And there's

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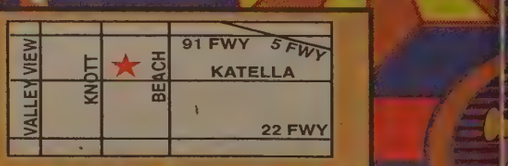
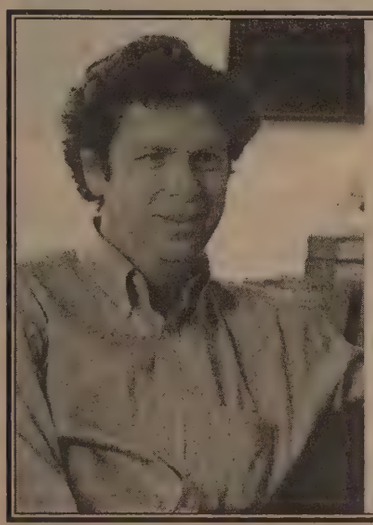


enough people here—forty-five programmers, about fifty graphic artists and animators, and a ten-person sound department now. It's a service center, and we charge it out to individual projects.

Everyone's different. Print Shop Deluxe was spec'd inside and programmed outside by a group up in Oregon that had good printing technology. The original Kid Pix was programmed and designed by a professor up at the University of Oregon; all the following products, Companion and Kid Cuts and so on, were designed here.

And the ports were all done here. Rand and Robyn Miller [authors of the CD-ROM adventure Myst, reviewed this issue] are Mac-only people; they don't even allow a DOS machine in their homes, so that gets done here.



"People say, 'Well, it must be easier now, the shakeout has occurred.' And in fact the opposite is the case—as the market grows, the opportunities for new companies emerge, and there's more and more companies all the time. Including a lot of very good ones."

Leslie Grimm's stuff is a mix. Some stuff is done here—I think a lot of Treehouse was done here. With Backyard on the other hand, she wanted to hire her own programmer. Typically if you do that you get a higher royalty. The more you take responsibility for, the higher a royalty you get. A lot of outside designers go back and forth on the headaches versus the rewards.

So it's all over the map. We are not primarily an in-house operation, but we have a lot of in-house capability.

The most exciting stuff that's come in from the outside, whether designs or finished product, is stuff that's outside of any category we might have anticipated. Myst and 3D Home Architect are good examples.

Rand and Robyn just told us they were moving into educational software; they'd done Spelunx, and suddenly Myst is the next thing to pop out. It's a fabulous product, and light years beyond anything they'd done before, because they started fooling around with this 3-D architecture stuff.

3D Home Architect was done by a contractor who knows how to program and was doing this for himself on his own nickel. I used to be a contractor, and I said, "I'd *love* to have this tool. It would have made life infinitely easier."

So there's a level of whimsy or unpredictability about how that stuff comes in. You never know. But the most exciting stuff is often something that doesn't fit any preconception of what we'd like to see.

How has the business changed?

You know, it was a small community. We all knew one another, and part of the fun of it was going to the shows and seeing all your friends and getting caught up. It was more of a social environment than a cutthroat business, and people don't often understand that. We partied with our competitors rather than trying to cut their throats.

There's more competitors now than ever. The Software Publishers Association had twenty-five members in '84; it has almost 1100 now. People say, "Well, it must be easier now, the shakeout has occurred." And in fact the opposite is the case—as the market grows, the opportunities for new companies emerge, and there's more and more companies all the time. Including a lot of very good ones.

Remember, I think, in the late 1800s somebody introduced a bill into Congress to close the patent office, on the theory that everything had been invented? And I have had some interview questions four or five years ago from people saying "Wouldn't the consumer marketplace dry up and blow away, because basically all the apps had now been done?"

And of course there's nothing sillier in a market like ours—the only thing that's sure about it is change.

But I know what the guy who did the interview was saying—"Well look, every game seems to be a knockoff of this or that, they're all sort of copies. And all the major business applications have been done. Therefore we should pack up and go home."

I don't *think* so...

Well, you could take it either of two ways. You could say, "C'mon, you guys, let's see some more innovation," and I think it's true in any industry that there's a certain amount of copycatism in the market, where people are just making incremental changes.

But then there's a lot of breakthrough stuff that comes along. If you look back in the mid-'80s at the early learning category, and what it's like now compared to then, the quality and kinds of software are enormously different.

I'm fond of some of the things that technology makes possible. 3D Home Architect won't really run on anything slower than a 486 machine. I've got a 386 at home, and you drop a camera to take a view of your living room, and you go eat lunch and come back when it's done. With a 486 it's a couple seconds, and it works fine.

This is essentially CAD for normal people?

It's CAD for dumb people. *I* can use it. You can throw together a house or a bathroom—*really* quickly. I can do a whole three-bedroom house in half an hour with it, and have everything in there—electrical wiring, all the windows. You can do elevations, you can do these kinds of overview things where you look down on the house. You can drop a camera anywhere and get a quick snapshot, with all the furniture, what it looks like. You can color everything the way you want to color it.

It doesn't have wallpaper. But it does have the full range of paints you can put on the walls, and so forth. It's fun—America's biggest hobby is reinventing the home, so it's something that I find directly applicable.

Like all these people who spend their Sunday afternoons going to other people's open houses, when they've got no intention at all of buying a house.

I know, I know. Just for the fun of it.

And even Print Shop Deluxe and its whole move into higher-quality printed output—first laser printers, and now we're getting some great stuff over on the color side of the consumer market. It's amazing. You can just get incredible quality.

So you had to move from bitmapped to object graphics. And at the same time, it starts opening up worlds that weren't really possible before—things like scanning in images and using them. Because nobody wanted those rendered into crude bitmaps, but if you can get nice high resolution and overlay it with what looks like professional color output, then you've got a much bigger market, and it's a lot more fun.

When the first Print Shop came out, it was crude. It was jaggy. It was laughable by current standards. But at the time it was a miracle.

Our big concern was, people didn't have printers at home. People said, "Why are you trying to sell essentially a home product, when all the printers are in businesses?" The truth was, the initial data showed that it was mostly bought by institutions and businesses. Church bulletins, retail stores with banners in the windows, that kind of stuff. But obviously the market caught up, and the market's catching up now.

We have a PowerPC upstairs, and we recompiled one of our applications—I think it was Print Shop Deluxe—on it just to see what happened, and it runs about seven times faster. That's an enormous performance improvement.

And that means you can put all kinds of stuff in there!

Yeah, it's just like when CD-ROM came along and people said, "Well, doesn't that just mean a little more of the same?" And the answer is well, yes and no. It's just a storage device, and that's absolutely right.

But there's all kinds of things we simply had to eliminate doing in the old days, the floppy days, that we can do now that we have CD-ROM. Living Books [*Just Grandma and Me*, *Arthur's Teacher Trouble*, and new releases *The New Kid on the Block* and *The Tortoise and the Hare*] is a good example. You just couldn't have that much digitized speech until you had 80 or 100MB.

Candidly, if you're going to do kid stuff and you put something on twelve disks, you've lost the kids. And concerns were really rising, in the consumer market anyhow, about things that essentially trashed your hard disk—if you had a 100-meg hard disk, you didn't want to devote 20 megs to one app. It was like saying, "I have a bookshelf, and I can keep any five books I want on it." Well, that's great, but if you're a reader that's not particularly satisfying.

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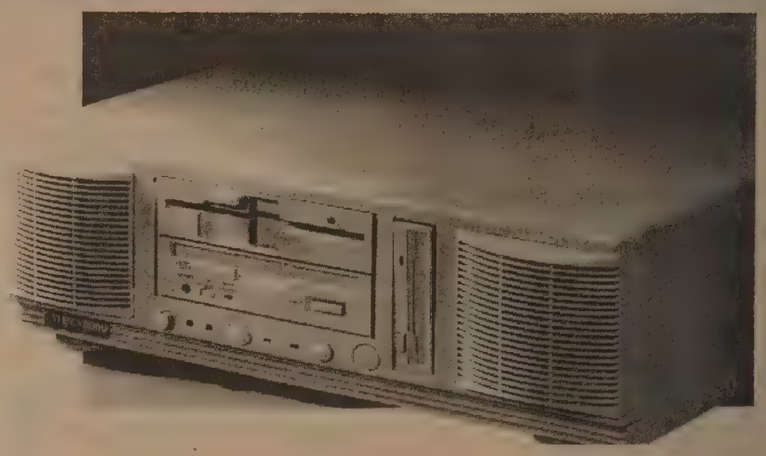

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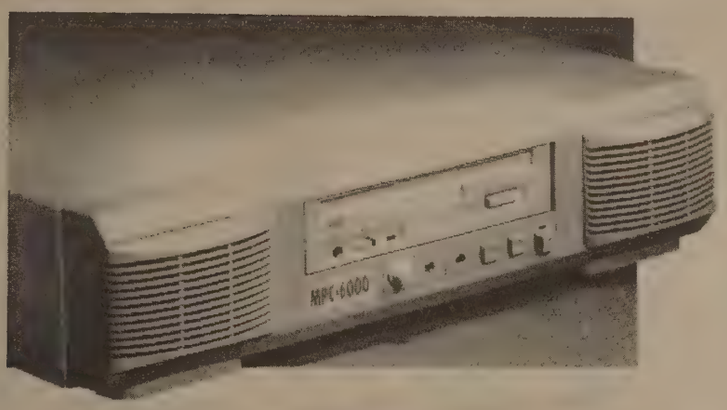

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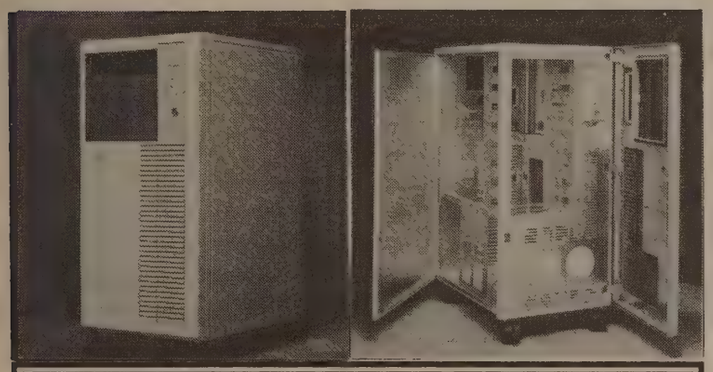

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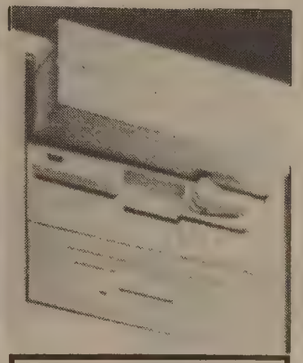

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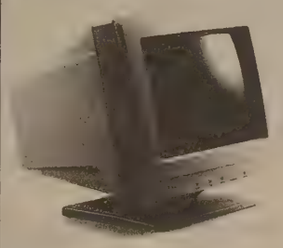

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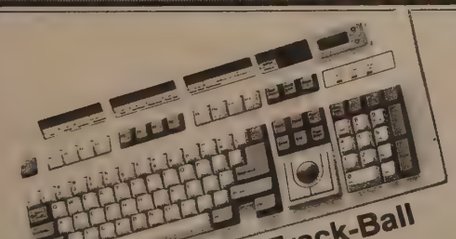

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modal environment, like the record collection, but it also got much closer to plug-and-play for kids. It allowed digitized speech—it's like bringing speech to silent movies. It had that kind of impact, especially in a couple of areas we were really interested in. In pre-reading, early reading, speech is really important. You want to give the kids all of their cues verbally rather than textually. Text is what you're trying to teach, and it's a major handicap if they already have to be able to read in order to figure out how to use a thing that's supposed to teach them how to read. Language arts is another interesting area.

But we're also quickly finding that there's lots of other apps. The fun thing about Myst is just that Rand and Robyn got all caught up in this StrataVision 3-D modeling thing. I went up to their house and spent a weekend with them—we would make a kind of a smooshy black thing, and then we'd model it into a volcano, and we'd texture-map it with rocks, and then we'd add mist and smoke, and then we'd do a fly-by.

And while the fly-by was being calculated on the Quadras we'd go off and have lunch, because it's not a real fast process!

But the idea of taking a whole world and modeling it in the kind of intricate detail you see in this thing—

You couldn't do that on the IIe.

You couldn't. You couldn't do it.

And the truth is, we're still having trouble getting used to that. The truth is, they could have done this a lot better if they'd used a Mac front end with an SGI back end. But the tool sets are so much better in the Mac world than they are in the Silicon Graphics world that until all the tool makers put that kind of capability in the tools, it's hard to do. Pixar already does it—with Renderman you can do that.

But StrataVision, I guess, didn't have that capability yet, so they were buying Quadra after Quadra and lining them up. And they'd do one image, and they'd run it overnight, and they'd go to the next machine and do one image, and run it overnight. You end with these images that are way outside what you could do in a floppy disk product.

A screen's bigger than a whole game was before.

Yeah. So the world has changed enormously, and it's going to keep right on going. People who think, "Well, that's it, that fixes it," aren't paying attention. There's a fascinating world of opportunities coming as the information superhighway finally gets connected into the home.

"There's all kinds of things we simply had to eliminate doing in the old days, the floppy days, that we can do now that we have CD-ROM. Living Books is a good example. You just couldn't have that much digitized speech until you had 80 or 100MB."

We've basically got it up to about the last mile. The phone companies have ISDN right up to about the last mile. The cable people obviously have the broadband one way into the home; they can get it two-way into the home, but they still have to learn about switching technologies and billing technologies to be where the phone companies are. So the phone companies are probably a little bit ahead.

Once you have that you can create virtual communities. You can create universes in which you walk around and talk into your little Apple microphone and literally are heard by everybody within a virtual distance on the screen from you. That's not a hard thing to contemplate.

When Minitel came out in France, they discovered to their shock, and I think to their horror, that 70% of the usage was chat mode.

Prodigy made the same mistake, and they're still figuring it out.

They're still trying to figure it out.

continued on page 89

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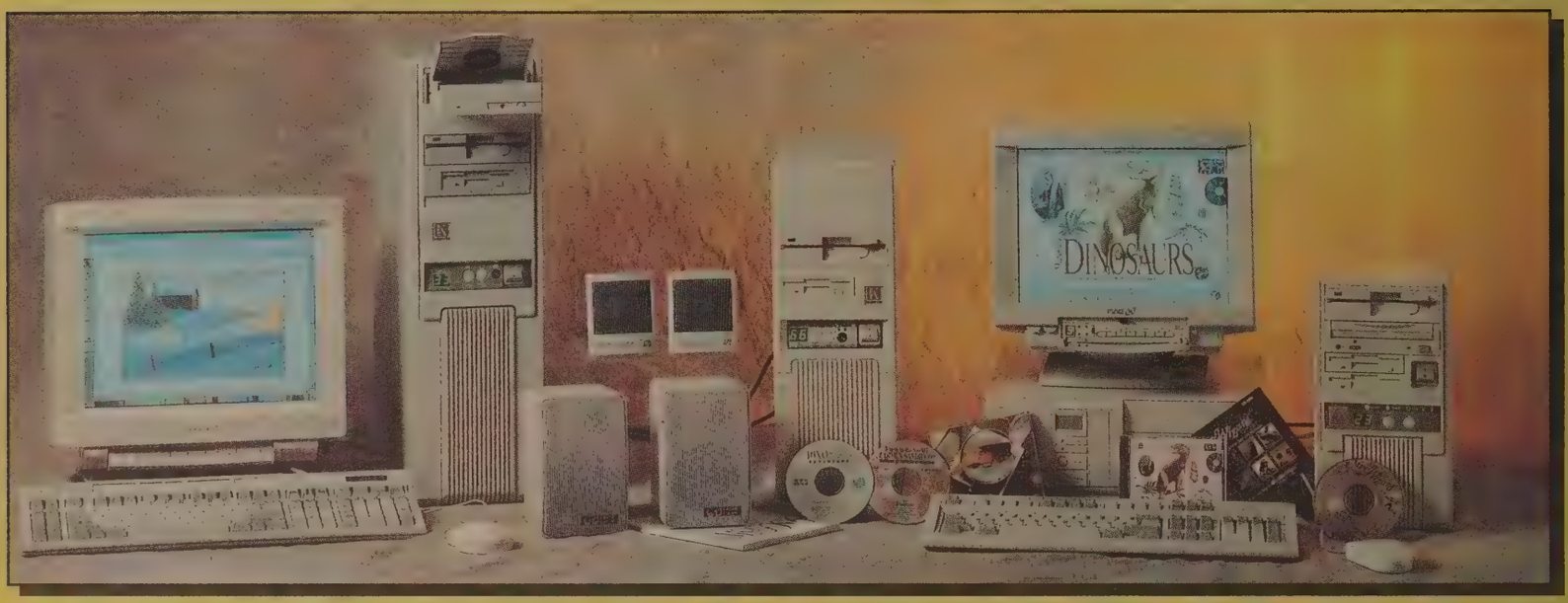

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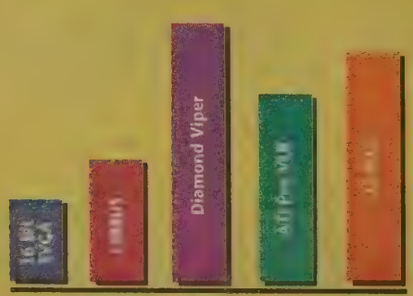

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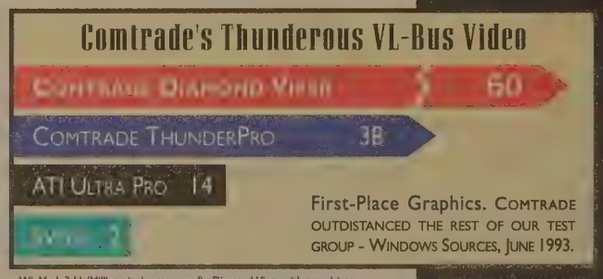
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intel inside

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No Contest!
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continued from page 84

But basically, it allows people not only to extend their own worlds in terms of picking your friends from a much larger potential pile of people—

To have communities based on affinities rather than location?

There's a lot of that, but there's also the capability of what-iffing your life.

In other words, you don't have to project yourself, you can project a persona. If you're fourteen, it doesn't show. If you're eighty-seven, it doesn't show. If you're handicapped, it doesn't show. If you think that you're too fat, it doesn't show. You basically can project any persona you want, and then people can deal with the persona.

Somebody at one of the online systems was telling me they did a check on one of their chat rooms, and they found that two-thirds of the women logged on were actually men, because they wanted to increase the number of interactions they had with other people and found that they got a much higher response rate if they logged on as women. This was early on, when it was like 95% men and 5% women.

There's also that quality of "I can be anything I want here. I'm not locked into the characteristics that came with the body I was born into." And there's certainly a certain amount of, I don't know, almost personal voyeurism, that creeps into the market as a result.

But it opens up opportunities for not just multiplayer games, but a much richer and deeper level of interaction with, as you said, affinity groups that you might have a hard time finding, not only if you don't live in a big city but even if you do live in a big city. It's just much easier.

On AOL the other night we were having a chat in the Grateful Dead area and this guy says he's the only Deadhead in Nebraska. This is probably a slight exaggeration, but now he can get online and trade tapes and talk to people all over the country.

Yeah. It's an interesting area.

I was talking to [*Wired* editor] Kevin Kelly the other day about the WELL, and he was saying that one of the things that happened when the WELL started to grow was that it segmented. It had been a single community up until then, and then there's some kind of maximum size at which people start losing the sense of community.

It's true.

And then it tends to bifurcate or trifurcate—it breaks into chunks. So you keep whatever is that comfort level. Sometimes it's topical, but even if everybody has interest in the same topics, it still bifurcates.

There's all kinds of rules of social behavior that are starting to emerge out of the virtual existence. I know that companies had a lot of trouble with LANs when they first came out, because people didn't know what appropriate behavior was. People would often say things that appeared much harsher in text than they would ever say face to face with people, both because they felt somewhat insulated from it and because they couldn't send visual signals to dampen down the impact of what they were saying. You could criticize somebody and smile at them, and they'd take it a particular way. If you type it, they don't see the smile.

And so there's been a lot of need for retraining—how do I behave in this particular environment as we go forward? Which I think is fascinating stuff. It's really interesting to see how it goes.

Also, I understand that in most of these chat modes, you have the opportunity to zero somebody out. If you don't like what they're saying, you can make them a nonperson on your machine. Which is a frightening concept!

Do you think that as we get this fiber to the home that all those etiquette issues and online ambiguities are going to get better or worse? You've got more information with video and sound, but you've also got more issues of what you do and don't want people to see.

Actually, Esther Dyson wrote a nice piece last week on explicitness and the need for inexplicitness in our lives. As long as they are administrative, processes can probably benefit from rationalization, pushing toward rule-based systems, and making things explicit. But to the extent that the processes are creative, explicitness may handicap or maybe actively harm the interchange of ideas in the community that creates ideas.

She brought up as an example the prenuptial agreement. It may be very good at defining exactly what the duties of each person are, and in that sense may prevent certain marriages from taking place that shouldn't take place. But on the other hand it might destroy relationships, too.

Which is a good point, because an awful lot of what you're trying to do is create something that's greater than the sum of the parts. And that's true with almost all creative activities.

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You *want* to evoke things that are not explicity stated.

I think one of the reasons kids prefer cartoons to movies that have real people is that there's a level of inexplicitness there. It's not that they like animals better than people, it's that when it's a cartoon character, they can impose whatever they want on it. It can be a person or not; if something happens to it, they don't have to deal with it as if it were violence to a person. It's a level of abstraction that's useful, not only to kids but I think actually to adults.

If you look rationally at this process as we get into, if you will, a real interactive visual medium, I think you'll find, for example, that people don't have a real strong interest in being seen when they're talking electronically.

You get a lot of anxiety expressed about "What if I just got out of the shower?" "What if my hair's a mess?"

They wouldn't mind having an iconic representation of them. They wouldn't mind being able to communicate through avatars, like in *Snow Crash*. That's probably fine, although it's not clear what level of visual cuing you're going to have.

I was trying to imagine how you'd do it in *Snow Crash*. You're wandering around, you're talking, the other person's hearing you—do you do an aside to your avatar, saying "Smile now five seconds, and then drop smile"? Or are you covered with a whole series of sensors?

Down at Colossal Studios they just came up with an animation process that involves wiring a person; the person goes through the antics of the character they want to animate, and it's translated real-time, superimposed real-time to the animated character.

It's supposed to cut the development cost of cel-based animation substantially. It's done on one of the SGI machines, and it's done very, very fast. They go in and they do touchup afterwards and clean it up, but it's a very fast technique.

But it doesn't seem at all practical as a broad-based consumer technology. We don't want to get wired every time we go on the net. That seems kind of silly.

A lot of things about the *Snow Crash* universe, the Metaverse—I can't quite figure out how you'd get to all that. But there are a lot of things about the book that I think are absolutely right. The concept that if you're going to make a Metaverse work, it has to have its own economy. Fundamentally. I can contemplate a virtual street in which you walk along the street, talk to people there, and every door you go into, that can be a chargeable event. Every door can be a channel on TV. It can be video on demand. It can be all these other things.

That's a perfectly rational way of contemplating this superhighway.

The big problem I've got with the information superhighway right now is that all the carriers of information are trying to be content providers too, and they're trying to lock it up. Whether it's the carriers trying to gain monopoly positions through integrating the multiple sources into the home, or whether they're trying to buy the content providers, on some kind of screwy idea that if they own the content providers—which is I guess where they figure all the profit is—they can feed their own channels and gain some sort of competitive advantage over everybody else, I'm not quite clear. I just know that they don't think that being a common carrier into the home is that good a deal.

Mitch Kapor has what he calls his nightmare scenario —500 channels of all the Stallone and Schwarzenegger movies-on-demand you could want, and then there's the Hair Club For Men channel.

Well, if they own the content, they'd try to sell their own content over other stuff. That's true.

Although we had the Cap Cities/ABC folks in the other day. They're not in that particular battle right now, but they said, "You know, this 500-channel thing is complete nonsense."

All the plans have a maximum of 150 channels, and the rest are video on demand. All they're really doing is time-shifting a limited selection of movies so that it feels like you can get it instantaneously—they start ten minutes apart or whatever.

They figure that if you channel surf, which is what at least the male portion of the species does incessantly, 500 channels takes 47 minutes. Which means that one check through the channels wipes out your entertainment evening. It would destroy television as a carrier of advertising messages, which is its main source of income, so they don't want to do that. And there's no perception of need on the part of the consumer for 500 channels.

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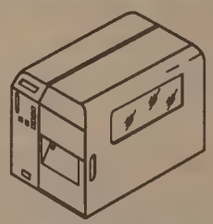

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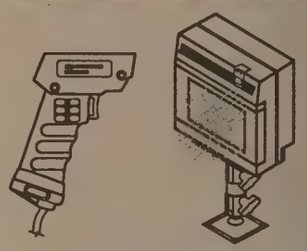

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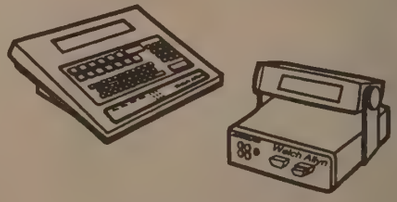

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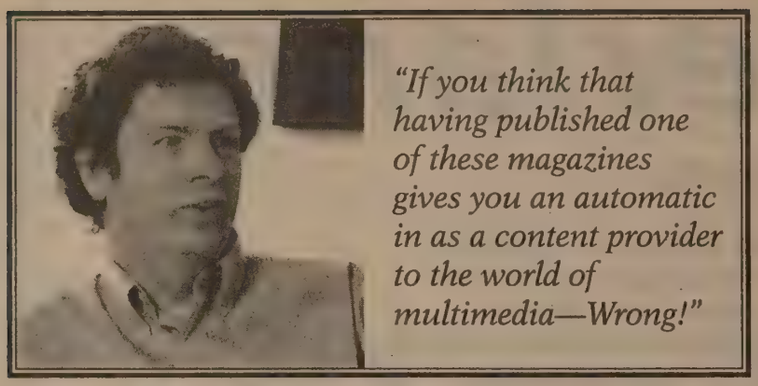

"If you think that having published one of these magazines gives you an automatic in as a content provider to the world of multimedia—Wrong!"

you will probably get is a certain amount of segmentation of the market by special interests. But that almost necessarily means that it's not going to appeal to a big chunk of the audience.

Look at what's happened with radio. With the exception of some of these closed-band radios that only broadcast in Farsi and you have to buy a radio that's specifically tuned to it, most radio actually settles down into one of three or four very conventional slots. There's a big chunk of radio that plays music to people whose musical tastes were formed in the '60s. There's a bunch of current pop stations, there's a few classical stations, and there's the NPR style news-oriented stuff. There's not a whole lot else—there's country and western. And you get a heavy level of redundancy very quickly.

And it's very formulaic.

It's very formulaic. And that happened slowly, as the ones that weren't formulaic got pushed out of the business because they weren't getting the advertising revenue.

So do you see the same scenario being reenacted?

Well, I think that people that predict this is the demise of the broadcast stations don't understand the extent to which the broadcast industry has fine-tuned its act to hit the lowest common denominator and pick up the maximum advertising revenue out of it.

And everybody who thinks we could have a BBC doesn't understand—the BBC will not get the advertising revenue. It won't compete if it's on an equal footing.

So unless there's a different way of paying for it—that's the whole concept behind cable. If you can put a premium on channels, premium channels work. Disney Channel works, if you can get enough people to decide that they want to lock their TV on the Disney Channel so it's all the kids can see; you don't have to worry about them seeing *Debbie Does Dallas* accidently because you weren't at home or weren't in the room at the time. You get a market for that sort of thing, and then you get the channels that do *Debbie Does Dallas*, and you charge for those too.

But that's a different universe. I can see in the Metaverse you'd make both possible—you could have doors that people walk through for free, and you have other doors where you charge admission. Obviously people are less likely to walk through those doors unless they know what's on the other side, so you suddenly have a world full of advertising. Virtual advertising is relatively easy, although I'm not sure Prodigy showed us the way.

I did my thirty days on Prodigy and gave up.

I have to confess to being in the same boat. I use America Online all the time.

I use it and the WELL a lot.

The WELL's enough pure text-surfing that I don't have a lot of time for it. The truth is, even on America Online, I do two things all the time and other things occasionally. I have my whole family on it, and it's my Internet mail connection. So it's how I get to everybody.

They're going to have a full Internet connection soon, with ftp and everything; ftp with an AOL interface would be a wonderful thing.

It would be terrific. The interface is one of the best things going for America Online.

A lot of people on the WELL whine because the interface on AOL gets in their way, but a person who can use the WELL proficiently is not AOL's target market. I get a fair amount of email from forum users who clearly think AOL's interface is too hard.

The truth is, if you describe this uni-

continued on page 196

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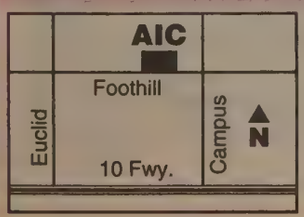

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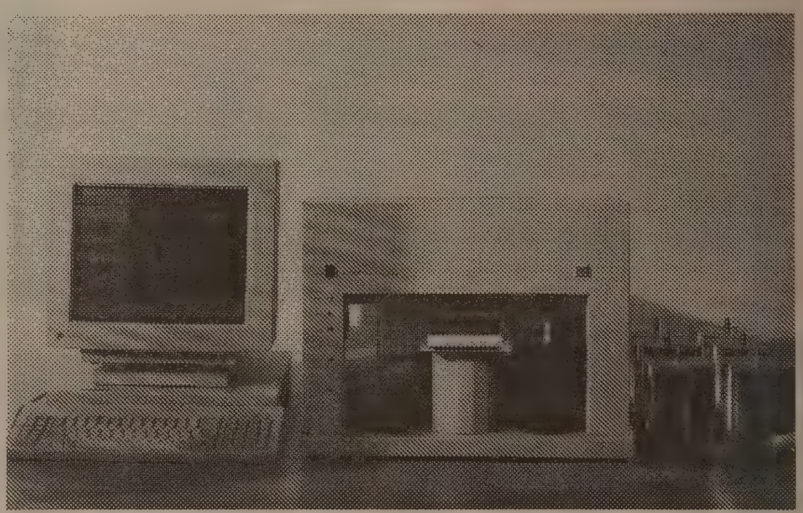

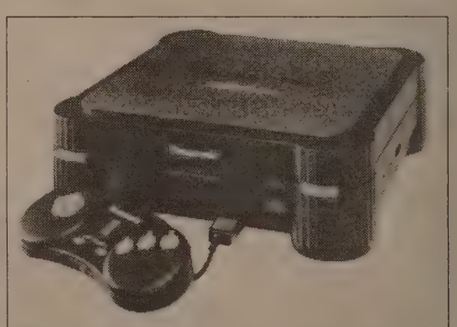

Above: The Kodak Writable CD Production Station; Right: Panasonic REAL 3DO Interactive Multiplayer

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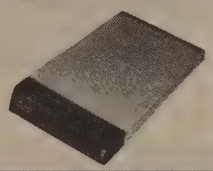

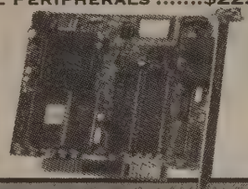

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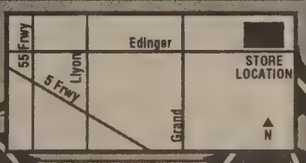


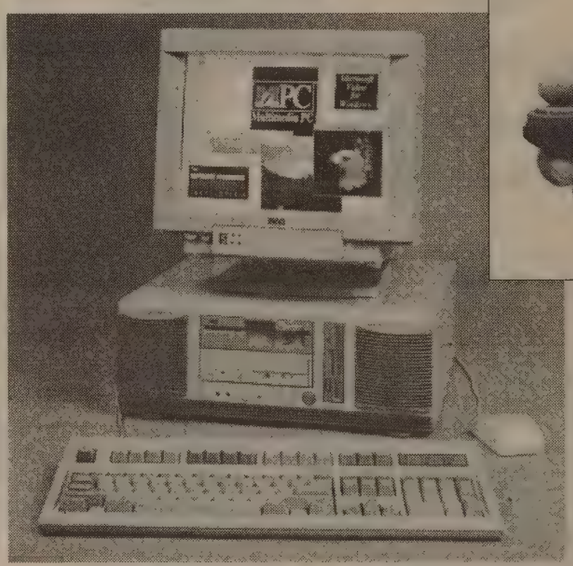
with complete freedom of movement. (CE-PCE, $1300, or model CE-PCE/17M bundled with a 17" stereo-ready monitor, $2695. Available for IBM PC compatibles, Macintosh, and Amiga computers) StereoGraphics, Inc., 2171 E. Francisco Blvd., San Rafael, CA 94901. (415)459-4500.

LOGITECH SOUNDMAN GAMES

SoundMan Games is an 8-bit stereo sound card for newcomers to the game market. Guaranteed to be fully Sound Blaster Pro and AdLib compatible, SoundMan Games card has a CD-quality sampling frequency of 44.1kHz. It also has a 6-watt stereo amplifier and an OPL-3 Yamaha synthesizer chip, which offers four-operator sound and 20-voice stereo support. SoundMan Games includes a built-in Sony CD-ROM interface allowing the user to install both single and multisession CD-ROM drives. It is MPC and MPU-401 compatible. Also included is a "smart" installation program, DOS software, a new game, and MCS MusicRack, sound recording and editing software from Animotion. Sound Man Games has an interface for one or two joysticks, a microphone or CD-audio line-in for recording, and an output jack for stereo speakers and headphones. The product has a full two-year guarantee. ($139) Logitech, Inc., 6505 Kaiser Dr., Fremont, CA 94555. (510)795-8500.

ORCHID GAMEWAVE 32

The GameWave 32 multimedia sound card is a DSP-based audio card for IBM PCs and compatibles. It allows cost-conscious users to experience 16-bit audio and advanced wavetable synthesis in all of their entertainment and multimedia software. The board's flexible architecture enables the user to switch between sound standards and to update to new sound standards without additional hardware. Computer game enthusiasts can enjoy "real" sounds and effects. The GameWave 32 also features dual CD-ROM interfaces for Orchard, Sony, and Mitsumi CD-ROM drives. Interface connections include stereo speakers output and a line output for connecting the GameWave to a home stereo. ($169) Orchid Technology, Inc., 45365 Northport Loop W., Fremont, CA 94538. (510)683-0300.



Clockwise from left: Logitech Soundman Games; StereoGraphics CrystalEyes PC System; Imp from ArcanaTech, Inc.; The Exclusive 486 PC from BOLData Systems

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The Exclusive line of 486, Windows-based personal computers features integrated image-capture and full-motion video capabilities. Designed for multimedia, there are eight expansion slots (two VESA local bus and six ISA slots), four drive bays (two 5.25" and two 3.5"), built-in amplifier with speakers, and front panel volume control as well as microphone and headphone jacks. The system comes configured with a Mitsumi CD-ROM drive and four CD-ROM titles. The drive is compatible with CD-Audio and Kodak's multisession Photo-CD. A 16-bit SoundBlaster-compatible sound card is installed in one of the eight motherboard slots. BOLData Systems, 840 Auburn Court, Fremont, CA 94538. (510)490-8296.

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TrueVista EISA is a professional-quality frame buffer based on the company's new DVR architecture. It has one video input and two video outputs. Video producers can use the frame buffer to capture video stills or pass-through video to one or both of the video outputs. The video outputs also meet the producer's need for program preview and program output, or program output with matte channel. The frame buffer supports all major analog video standards. The TrueVista EISA includes software such as an image loading utility for use under Windows or MS-DOS, Autodesk ADI driver, and capture/control utilities. ($4195) Truevision, Inc., 7340 Shadeland Station, Indianapolis, IN 46256-3925. 1-800-344-TRUE.

CV LINK

CV Link is a computer-to-video link which allows personal computers with VGA monitors to transfer images to a television, VCR, or video projector. Recommended for multimedia presentations, CV Link elimi-

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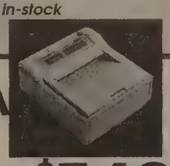

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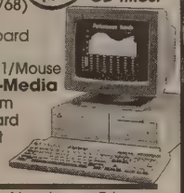

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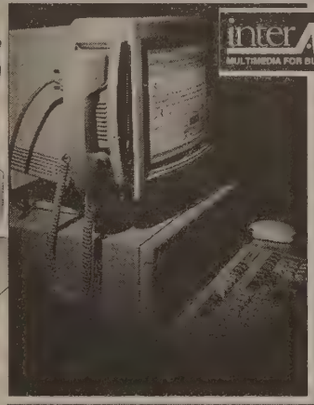

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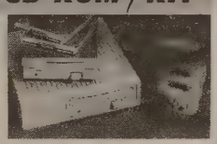

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1280x1024, Audio capabilities
Mono Graphic w/Printer port $18
VESA LB VIDEO CARDS - see under VLB M/B

MISCELLANEOUS & CD ROMS

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Colorado Tape Back-up 120MB $115
Colorado Tape Back-up 250MB $160
Jumbo Tracker JT10 120MB $300
Colorado parallel port Tape Back-up
Jumbo Tracker JT20 250MB $350
Colorado parallel port Tape Back-up
External Drive Kit, KE-09 (no adapter) ... $80
Tape Drive Adapter AB-11 (for ext.) $40
FC-10 500Kbits-1Mbits Adapter Kit $90
TC-15 Data Compression Adapter Kit ... $189
Tape Back-up Cartridge 120/250MB ... $20/22
9600/2400 Fax/Modem w/MNP7 ..... $40
14 400 Modem int w/v.32/v.42 w/Fax $150
U.S. Robotics Sportster Modems
9600PC Internal Data Modem $135
9600 External Data Modem $150
14400PC Internal Data Modem $160
14400 External Data Modem $195
14400 Internal Data/Fax Modem $175
14400 External Data/Fax Modem $205

MOTHERBOARDS

286-12Mhz/286-20Mhz $35/55
386-SX25/SX33/SX40Mhz $70/75/80
386-DX25 w/o CPU, w/CPU OPTI $80/130
386-33 128K cache w/o CPU; w/CPU OPTI $78/130
386-40 128K cache w/o CPU; w/CPU OPTI $78/120
386-40 128K cache w/o CPU; w/CPU PC $78/120
486SX-25 128K cache w/o CPU; w/CPU $95/180
486DX 128K cache w/o CPU, OPTI $100
VEGA Baby 486 w/64K cache (Made in U.S.A.) ..... call
Cyrix 486DLC w/128K cache w/o CPU & Math Co $95
Cyrix 486DLC-33 w/128K cache w/CPU & Math Co $235
Cyrix 486DLC -40 w/128K cache w/CPU & Math Co $237
VESA Local Bus M/B w/o CPU
OPTI 486 VLB w/128K Cache (Slave mode) $115
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VEGA 486 VLB w/256 cache (USA made) $190
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Diamond Stealth Pro VLB w/1MB $250
Diamond Viper VLB accelerator w/2MB VRAM $350
Orchid Fahrenheit VLB w/in acceler. w/1MB $175
Orchid Celsius VLB accelerator w/1MB $235
Orchid P9000 VLB accel. (Weitek Chip) w/3MB $350
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Tekram DC-680 VLB IDE Cache Ctrl (exp. 16MB) $135
UltraStor 24F VLB SCSI Ctrl. (Bus Master) $275

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MFM 1:1 H/F Ctrl $40
IDE 1:1 2H/2F Ctrl (Qty 20+ $9) $15
Super IDE 2H/2F w/AT I/O (Qty 20+ $11) $20
IDE 1:1 2H/4F Ctrl I-40 ..... $35
IDE 1:1 2H/2F Ctrl w/ROM (for Networks) $45
LongShine (LCS) ISA IDE Ctrl (16MB exp.) ... $190
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LCS EISA IDE Ctrl w/1MB Cache (16MB exp.) call
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DTC 3290AS EISA to SCSI Cache Ctrl $395
ASPI comp., Host adapter, (4MB exp.)
DTC 3292 EISA SCSI Ctrl (non-cache) $330
ADAPTEC SCSI 1522/1522K $100/140
ADAPTEC SCSI 1542CK/1542CK+ $240/310
ADAPTEC SCSI 1742K EISA Bus Master $395
ADAPTEC SCSI 2742T EISA Bus Master $430
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Adaptec 1522K compatible
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Tekram DC-680 VLB IDE Ctrl (exp. 16MB) $135
Bus Logic KT445S VLB SCSI Cntr. Kit $280
Bus Logic KT542B ISA SCSI Cntr. Kit $280

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High Speed AT I/O (Qty 20+ $32) $29
(16C550 comp., 2 serial/1 parallel ports)
Printer card/Game card $9

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Lite-On 101 ..... $35
Keytronic 101 KT2000 (USA) $45
Fujitsu 4700 101 ..... $45
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Panasonic KX-P2180 (9pin/240cps/color option) $165
Panasonic KX-P2123 (24pin/240cps/color opt.) . $235
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Panasonic KX-P2624 (24pin/300cps/132col.) $378
Color Kit for KX-P2180, KX-P2123, KX-P2124 .. $45
Panasonic KX-P4410 Laser (5ppm/300dpi/512K) . call

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Intel 387XL-20/25/33 DX $80

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Multi-Session Kodak Photo CD compliant, SCSI-2
Creative Lab Sound Blaster Pro Deluxe $185
Creative Lab Sound Blaster 16/ASP $178/238
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Media Vision Pro Audio Studio 16 Sound Card $199
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Truemouse TX/AX 300 (Serial) w/mouse pad .. $20
Truedox Trackball TR300 ..... $35
Logitech Dexxa Mouse $22
Logitech MouseMan $66
Logitech TrackMan II (Serial) $78
Logitech TrackMan Portable $105
Genius Portable Trackman ..... call
Microsoft Mouse Serial/Bus $65/75
BLACK F2 (Serial) Hi-res Mouse $25

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CONNER 30084 80MB IDE (17ms) $140
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CONNER 30174 170MB IDE (17ms) $180
CONNER 30204 210MB IDE (12ms) $230
CONNER 3200S 210MB SCSI (16ms) $300
CONNER 30254 251MB IDE (14ms) $260
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MAXTOR 340S 337MB SCSI (13ms) $320
MAXTOR 340A 340MB IDE (13ms) ..... call
MAXTOR 534A 535MB IDE (13ms) ..... call
QUANTUM ELS127 120MB IDE (15ms) $175
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QUANTUM Q24A012 240MB IDE (13ms) ..... call
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WESTERN DIG 280 84MB IDE (18ms) ..... call
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SEAGATE 251A 42MB IDE (28ms) $110
SAMSUNG 120MB IDE $158
SAMSUNG 250MB IDE $275

Epson 1.2/1.44MB $48/43
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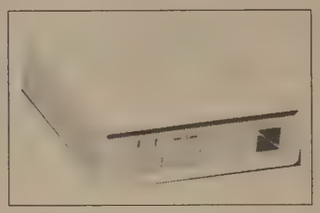
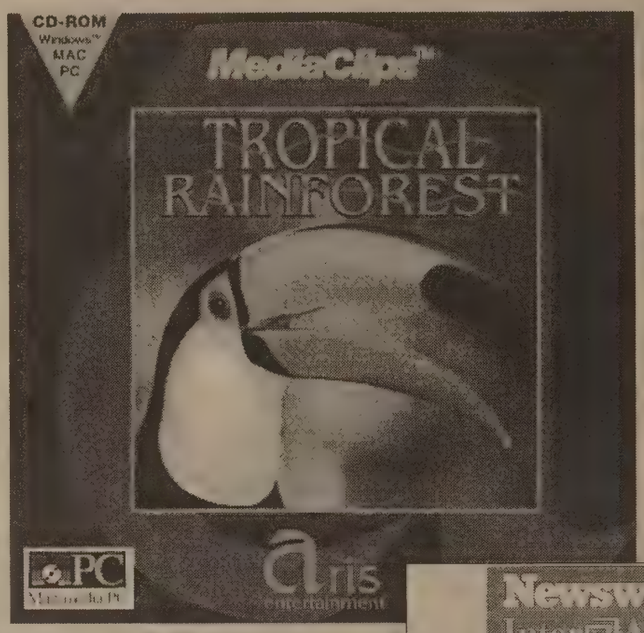
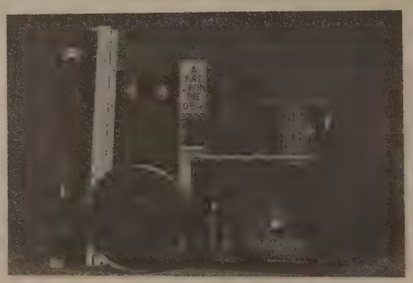
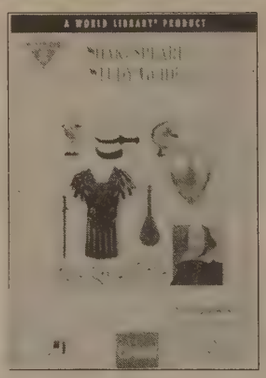
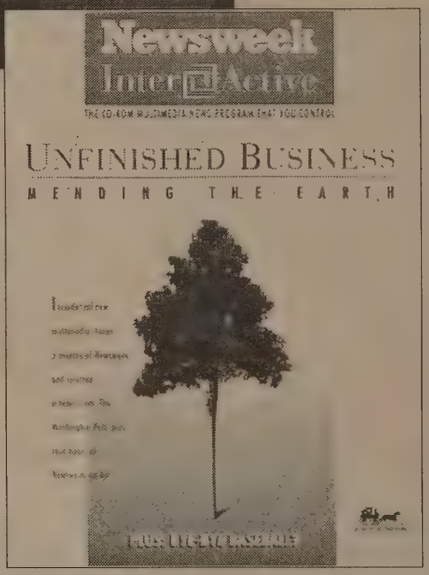


nates flickering and fuzziness from text, graphics, CD-ROM, and software applications in video output. It requires no video card, supports a 640 x 480 format in NTSC composite, high-resolution S-Video, and displays up to 16-bit color on the Macintosh and 18-bit color on IBM. ($599) Display Tech, Inc., PO Box 6722, Concord, CA 94524. (510)676-9335.









Clockwise from left: Aris Multimedia Entertainment's Tropical Rainforest; XingIt!; Newsweek Interactive for DOS; Shakespeare Study Guide; Electric Science Fiction from ClariNet Communications; CV Link from Display Tech, Inc.

XINGIT!

XingIt! is a real-time, 30-frame-per-second MPEG video encoder board for personal computers. For use by publishers and designers of video games, multimedia databases, sales presentations, and more, XingIt! combines Philips Semiconductors' video compression hardware with Xing's playback software. XingIt! makes incorporating video in multimedia computing applications easier. The product features real-time video capture, filtering, and MPEG compression. Also featured is MPEG video playback through Microsoft Video for Windows, synchronized with WAV and MPEG audio. ($795) Xing Technology, Inc., 1540 West Branch St., Arroyo Grande, CA 93420. (805)473-0145.

IMP

With the hand-held, remote control Imp, users can position a cursor and execute common mouse functions on a host computer from as far away as 15ft. Using infrared communication, a specially developed film that is sensitive to the touch, and four auxiliary buttons, battery-powered Imp can click, double-click, drag, and execute keyboard functions, all without the necessity of a flat surface or connecting cord. The product serves PC-based multimedia systems, dynamic presentation graphics software, desktop video conferencing, and laboratory automation systems. ($199) ArcanaTech, Inc., 120 S. Whitfield St., Pittsburgh, PA 15206. 1-800-364-IMPS(4677).

CD-ROM SOFTWARE

ELECTRIC SCIENCE FICTION

Electric Science Fiction: 1993 Hugo and Nebula Anthology offers a multimedia-enhanced compilation of the best science fiction of the year on CD-ROM. It contains all Hugo-nominated fiction and art, ranging from complete novels to short stories to a portfolio of artwork from nominated artists. The novel *A Fire Upon the Deep*, by Vernor Vinge, is a hypertext annotated rendition that contains the author's own story development notes. The anthology is also available online for the same price as the CD-ROM. The flat fee entitles a buyer to access the ClariNet network via FTP protocol on the Internet, or directly by modem, and browse and download as much of the anthology as the subscriber desires. ($29.92) ClariNet Communications Corp., 4880 Stevens Creek Blvd., Suite 206, San Jose, CA 95129-1034. (408)296-0366 or 1-800-USE-NETS.

CRITICAL PATH

Critical Path is an interactive action-adventure CD-ROM that combines motion picture, video games, and elements of computer-generated animation into a single interface. This CD details the adventure of Kat, a 24-year-old renegade helicopter pilot who must be guided to safety through a gritty, post-apocalyptic factory setting, where she is being pursued by a gang of thugs and an insane dictator with a thirst

Continued on page 107

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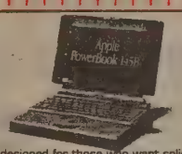

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The Apple® Macintosh® PowerBook™ 180 computer is the most powerful member of the PowerBook family of notebook computers. It combines incredible speed with high performance and the best screen quality available today, to give you a notebook that's flexible, functional, portable, and powerful. The PowerBook 180 has everything you need for impressive client presentations. Video-out capabilities let you work on a variety of external displays, both monochrome and color. It comes standard with 4 megabytes of RAM and a built-in modem, and runs applications up to 50 percent faster than the PowerBook 140.
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The sharpness and clarity of an active-matrix color display makes the Apple® PowerBook™ 180c computer the most powerful and colorful member of the PowerBook family of notebook computers. The PowerBook 180c is perfect for dramatic one-on-one client presentations. The PowerBook 180c comes standard with 4 megabytes of RAM, expandable to 14 megabytes, so you can work on multiple applications simultaneously. A 68030 microprocessor running at 33 megahertz and a powerful math coprocessor let you handle the most demanding applications.
#1855285
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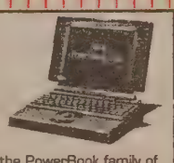
Apple® Macintosh® Color Powerbook™ 180C 4/160



The sharpness and clarity of an active-matrix color display makes the Apple® PowerBook™ 180c computer the most powerful and colorful member of the PowerBook family of notebook computers. The PowerBook 180c is perfect for dramatic one-on-one client presentations. The PowerBook 180c comes standard with 4 megabytes of RAM, expandable to 14 megabytes, so you can work on multiple applications simultaneously. A 68030 microprocessor running at 33 megahertz and a powerful math coprocessor let you handle the most demanding applications.
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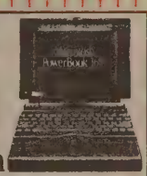

The PowerBook™ 165 delivers the processing speed, flexibility, and convenience you need all in a package that weighs just seven pounds and fits into a briefcase. You can also connect to a larger display for more work space.
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The Apple® Macintosh® PowerBook™ 180 computer is the most powerful member of the PowerBook family of notebook computers. It combines incredible speed with high performance and the best screen quality available today, to give you a notebook that's flexible, functional, portable, and powerful. The PowerBook 180 has everything you need for impressive client presentations. Video-out capabilities let you work on a variety of external displays, both monochrome and color. It comes standard with 4 megabytes of RAM and a built-in modem, and runs applications up to 50 percent faster than the PowerBook 140.
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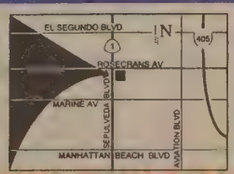

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3.5" 1.44MB Floppy Drive
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CYRIX 486DLC CPU

80486DLC 33MHz CPU
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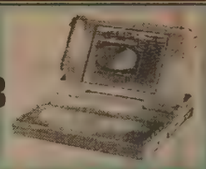

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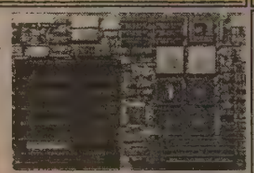

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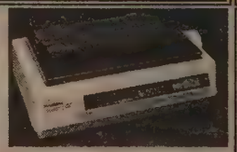

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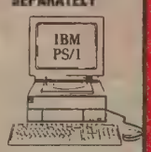

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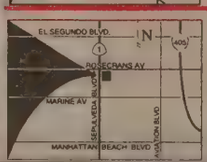

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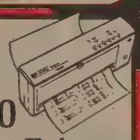

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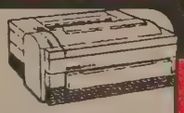

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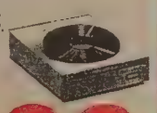

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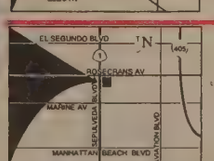

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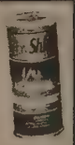

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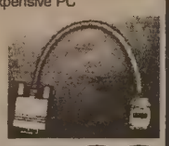

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HOLIDAY Gift Guide

Continued from page 100

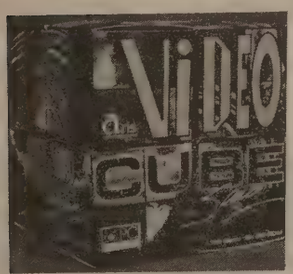
for high explosives. Players navigate through an animated landscape, all the while interacting with live-action, human actors. Media Vision Inc., 3185 Laurelview Court, Fremont, CA 94538. 1-800-348-7116.

PEAK PERFORMANCE

Aimed primarily at kids ages twelve to sixteen, Peak Performance is a somewhat campy, tongue-in-cheek, interactive adventure CD-ROM combining video, trivia, questions, and a race against the record books. Players "see" the US as they travel across the country in a race against an on-screen chronometer to break the world record for climbing the highest points in all forty-eight continental states—thirty days. This zany adventure includes such offbeat experiences as joining in a hollering contest, visiting the world's smallest police station, viewing Einstein's brain, seeing the world's biggest catsup bottle, and stopping by "Carhenge," the modern-day automotive equivalent of Stonehenge. Each adventure will be different, since players can select a new route and new points of interest each time they set off on the experience. ($59.95) Media Vision Inc., 3185 Laurelview Court, Fremont, CA 94538. 1-800-348-7116.

VIDEO CUBE: SPACE

Video Cube is a fast-paced, multimedia video game comprised of an interactive Rubik's cube-like puzzle incorporating 108



Microsoft Video for Windows videos, CD-quality original music, and sound effects. It begins with an animated cube, containing dozens of video fragments, hurling itself through outer space, and the player must unscramble the stills on each side of the cube. The payoff for solving each side of the puzzle is a playing of the complete video. These dramatic sequences are from NASA and include rocket launches, moon walks, and videos of the heavens above and below earth. Video Cube requires a Super VGA monitor and an MPC-compatible CD-ROM, and supports both 8-bit and 16-bit sound cards. ($49.95) Aris Multimedia Entertainment, Inc., 310 Washington Blvd., Suite 300, Marina Del Rey, CA 90292. (310)821-0234.

TROPICAL RAINFOREST

Tropical Rainforest features one hundred color photographic images of life in the tropical rain forest, along with one hundred audio clips of Andean pan flute music, and twenty-five live-action videos. All of the sounds, videos, and color images were produced by Bolivian artists living in the rain forest. The artists will receive royalties on their work, and a portion of the proceeds will be donated to help preserve the world's rain forests. It supports Windows/MPC, MS-DOS, and Macintosh formats on the same disk and self-running slide shows. ($39.95) Aris Multimedia Entertainment, Inc., 310 Washington Blvd., Suite 300, Marina Del Rey, CA 90292. (310)821-0234.

SHAKESPEARE STUDY GUIDE

The Shakespeare Study Guide is targeted toward students, scholars, and fans. This CD-ROM, which includes both MS-DOS and Windows formats on a single disc, contains the complete text of all of Shakespeare's works, as well as fourteen *Barron's Book Notes*. It also includes adjustable font options giving users additional viewing choices. The Study Guide uses "Instant Access" search software that allows readers to identify any word or line in any work, as well as rapidly search for words or phrases throughout the entire CD-ROM. For example, this function can be used to search all references to a particular character or line in both the original play and the *Barron's Book Notes*. ($24.95) World Library, Inc., 12914 Haster St., Garden Grove, CA 92640. (714)748-7197.

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Newsweek Interactive for DOS is a multimedia news service. When you subscribe, you receive eight to ten multimedia documentaries on news topics. You also receive the full year's text of *Newsweek* and close to one thousand articles from the *Washington Post*, on four CD-ROMs. The first multimedia documentary, entitled "Unfinished Business: Mending the Earth," examines the worldwide environmental crisis. The second, "Bye-Bye Baseball," looks at the future of our troubled national pastime. They combine original text, audio, video, animations, narration, and photo essays to tell their stories. They also feature basic interactive options. You can, for example, pose questions to expert panels or test a variety of scenarios for a particular event. The sound is continuous and uninterrupted. The photo essays are full-screen SVGA. ($49.95 retail, $129.95 annual subscription) The Software Toolworks, 60 Leveroni Ct., Novato, CA 94949. 1-800-409-1496.

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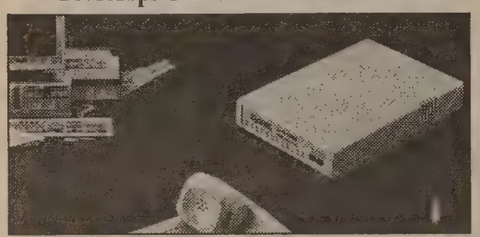

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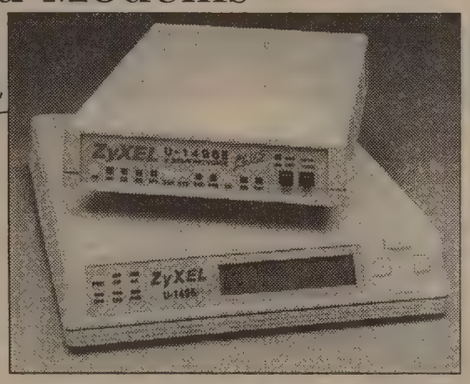

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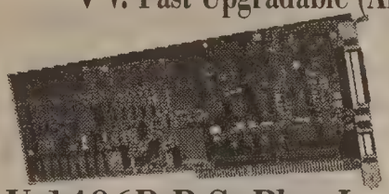

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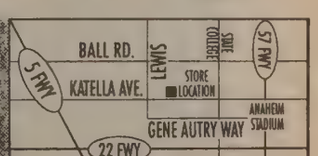

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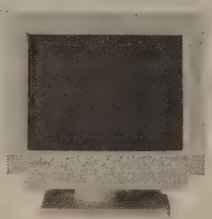

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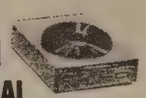

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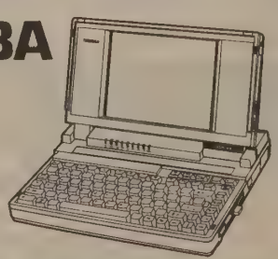

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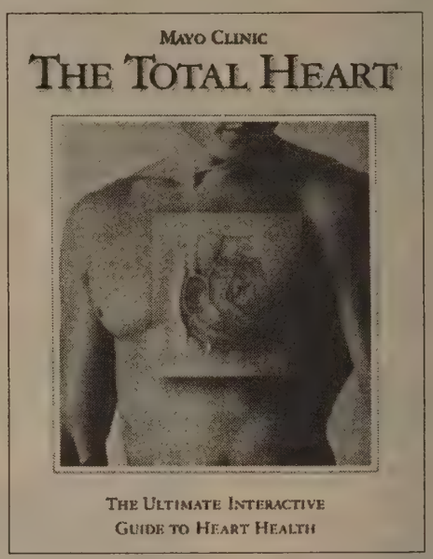

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	8MB Kit	141742-001	290
ProLinea 4/25s,33,50,66,CDS	1MB Module	141682-001	49
	2MB Module	141683-001	89

MODEL	MEMORY ADDED	LP PART#	SHECOMM PRICE
	4MB Module	141684-001	185
	8MB Module	141685-001	375
ProSignia PC Server 486/33,DX2/66	1MB Module	118688-001	49
SystemPro LT/486/33 (1-8MB Only)	2MB Module	118689-001	89
	4MB Module	118690-001	185
	8MB Module	128877-001	375
	16MB Module	149320-001	625
	32MB Module	149147-001	1,595
Contura 4/25,25CX,25c	4MB Module	146520-001	207
	8MB Module	146521-001	359
LTE Lite/20,25,25C,25E	2MB Card	129769-001	136
	4MB Card	129769-002	248
	8MB Card	129769-003	399
LTE Lite4/25,25C,25E,33C	4MB Card	142337-002	219
	8MB Card	142337-003	419
	16MB Card	142337-004	693

IBM

MODEL	MEMORY ADDED	IBM PART#	SHECOM PRICE
PS/1 Consultant 2133-G11,G13,	1MB Module	6450603	49
2155-G14,PS/1 Essential 2133-W11,	2MB Module	6450608	89
W13,2155-W14,PS/1 Expert	4MB Module	6450128	185
2133-S11,S13, 2155-S14	8MB Module	6450130	375
PS/1 Consultant 2133-G43,2155-G44	4MB Kit	96F9290	199
PS/1 Essential 2133-W43,2155-W44	16MB Kit	96F9291	560
PS/1 Expert 2133-S43,2155-S44			
PS/ValuePoint 6384 System			
PS/2 95 XP 486 OMF,OMT	4MB Module	6451158	220
	8MB Module	6451159	445
PS/ValuePoint 6382 System	2MB Module	6450902	90
PS/ValuePoint 6384 System	4MB Module	6450128	185
PS/ValuePoint 6387 System	8MB Module	6450130	375
	16MB Module	60G1622	820
PS/2 Model CL57SX	4MB Module	07G1420	240
ThinkPad 700,C,720,C	8MB Module	07G1421	465

SUN MICROSYSTEMS

MODEL	MEMORY ADDED	PART#	SHECOM PRICE
SPARC Server, Station 330	32-64MB Board	X133B	1,825
	8-16MB Board	X106D	715
	8MB Kit	X106E	593
	32MB Kit	X134A	1,580
SPARC Station/Engine 10 Model 30,41	16MB Module	X116F	825
Model 52/54	64MB Module	X164F	4,300
SPARC Station ELC (4/25)	4MB Module	X104Q	210
	16MB Module	X116Q,U	775
SPARC Station IPX (4/50)	16MB Module	X116Q,U	775
SPARC Station SLC (4/20)	4MB Module	X134A	210

ZENITH

MODEL	MEMORY ADDED	ZENITH PART#	SHECOM PRICE
MasterSport 386SL,SLe	2MB Module	ZA-4-4	139
MasterSport 386SX	2MB Module	ZA-360-1	139
SuperSports 286,E	1MB Module	ZA-180-66	76
	2MB Module	ZA-180-64	165
	4MB Module	ZA-180-71	213
SuperSports SX	2MB Module (Alpha)	ZA-180-86	165
	2MB Module (Beta)	ZA-180-87	165
	2MB Module	ZA-180-64	165
Z-LITE 320L	**2MB Module**	**ME1002**	179
Z-Note 320L,320LB,325L,Lc,Lp	2MB Module	ZA-3250-5	139
	8MB Module	ZA-3250-4	448

TOSHIBA

MODEL	MEMORY ADDED	TOSHIBA PART#	SHECOM PRICE
Toshiba T1800,T1850,C	2MB Card	PC-PA2000U	130
	4MB Card	PC-PA2001U	220
	8MB Card	PC-PA2002U	419
Toshiba T4400,T6400,T6600 Series	2MB Card	PC-PA2003U	110
	4MB Card	PC-PA2004U	220
	8MB Card	PC-PA2005U	419
	16MB Card	PC-PA2010U	748
Toshiba T4500,T4600,T1900	4MB Card	PC-PA2012U	229
Toshiba T1950 Series	8MB Card	PC-PA2013U	457
	16MB Card	PC-PA2014U	1,265

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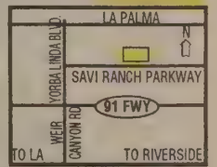

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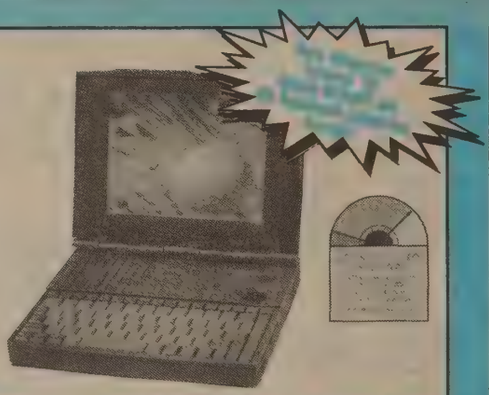

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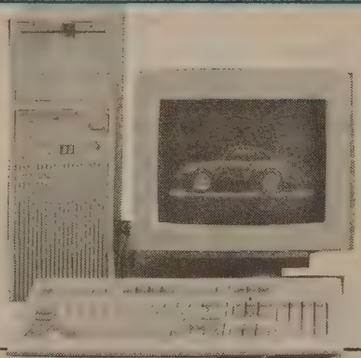

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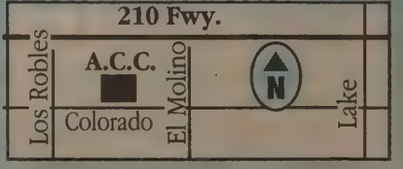


native stories, it offers young users precise controls for paint, text, sound, and special effects to create their own full-screen slide shows, QuickTime movies, and printed stories. Everything is built-in, including a Treasure Chest library of 250 images organized into themes like wild animals, earth and space, zany cartoons, and modern life. Kid's Studio fully supports Kodak Photo CDs. ($59.95) CyberPuppy Software, Inc., PO Box 19500, Rochester, NY 14619. (716)436-3570, or call Maxis, 1-800-336-2947.

THE TREEHOUSE

The Treehouse, designed for children between the ages of six and ten, offers a fun introduction to music, animals, and mathematics that encourages strategic thinking, exploration, and creativity. A child is greeted at the treehouse by the

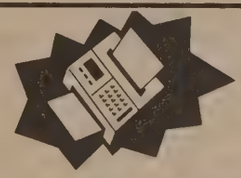
Top: The Treehouse; Bottom: The Backyard, both by Brøderbund Software, Inc.

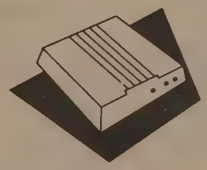
"Awesome 'Possums," who act as interactive playmates, accompanying him or her through the program. The child can choose to play with either a girl or boy 'possum as they ask to be fed, want to take a nap, or play a game. Using a mouse, joystick, or keyboard, the child can easily select the objects that will lead them to other learning activities: The Treehouse Theater (language and dramatic arts), Road Rally chip and coin games (math), Musical Keys and Musical Maze (music), and Animal Album and Guess My Animal (science). The package includes an extensive Kids Guide and Parents Guide, and is currently available for Macintosh Apple II, and MS-DOS computers. ($39.95) Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA 94948-6121. (415)382-4400.

THE BACKYARD

The Backyard offers children ages three to six a diverse collection of exploratory activ-

It's a FAX.





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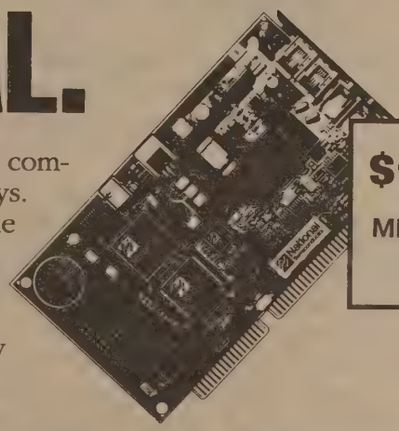

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For additional dealers in your area, please call: 800-272-9959

HOLIDAY Gift Guide

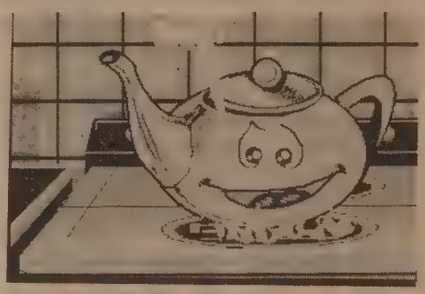
ities. From placing animals in their natural habitats, to mapping the quickest course to buried treasure, children will enjoy themselves for hours. This is the third Brøderbund program by Leslie Grimm and Lynn Kirkpatrick, the design team that created The Playroom and The Treehouse. The Backyard's exploratory environment is filled with activities that introduce young children to animal behavior and anatomy, mapping and directional skills, strategy, and logic. ($34.95) Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA 94948-6121. (415)382-4400.

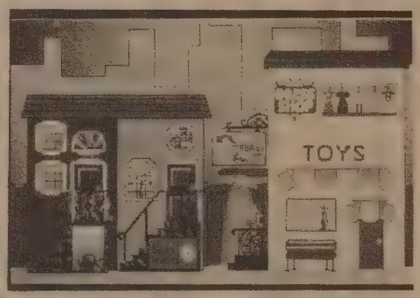
FUNNY FACE

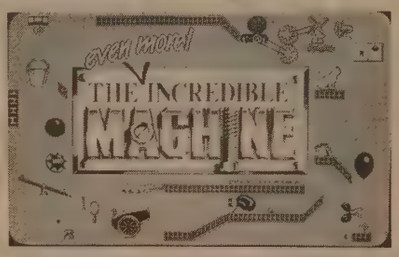
Funny Face, for children ages three to twelve, is a full-color cartooning program that exercises your child's imagination. Faces are easily constructed by making selections from panels of hair, eyes, ears, noses, mouths, eyebrows, and beards. After designing a Funny Face, you can color it in, give it a name, and print it. Pictures can easily be saved to disk in PCX format so they may be imported into other programs. Funny Face is for IBM-compatible computers and supports a Microsoft mouse. ($29.95 and comes with a no-questions-asked 30-day money back guarantee) Perfect Niche Software, Inc., 6962 E. First Ave., Suite 103, Dept FF, Scottsdale, AZ 85251. 1-800-947-7155.

DR. T'S SING-A-LONG

Dr. T's Sing-a-Long introduces children between the ages of four and ten to "Three Blind Mice"; "Twinkle, Twinkle, Little Star"; and twenty-four other classic children's songs. Animated talking characters such as "Old McDonald" and "Yankee Doodle," appear on the screen to accompany each song. Words and musical notation scroll by in time with the music. A musical icon moves from word to word to help users keep place as they sing. There is a control panel of big, easy-to-understand buttons specially designed for young users. With the software's karaoke features, parents can mix their kids' voices in with the musical accompaniment for a true sing-a-long. Dr. T's Sing-a-Long is available on floppy disk and CD-ROM. ($49.95) Dr. T's Music Software, 100 Crescent Rd., Needham, MA 02194. (617)455-1445.







Top: Dr. T's Sing-a-Long; Middle: Automenu for Kids; Bottom: The Even More Incredible Machine game for tinkerers of all ages

PETER PAN: A STORY PAINTING ADVENTURE

Designed for children ages five to nine, the Story Painting interface combines elements from story books, graphic adventures, and interactive cartoons, allowing children to direct the events in the stories they read using magical, animated paint tools called paintbox Pals. Peter Pan is the first title in the Story Painting series. Children choose creative solutions to help Peter throughout his adventures. With more than thirty scenes and hundreds of possible choices, each story (or retelling) of Peter Pan is unique. Throughout the adventure, Peter Pan reinforces process learning skills including reading, creativity, cause and effect, decision making, and teamwork. Electronic Arts/EA*Kids. (415)571-7171.

SHELLEY DUVALL'S IT'S A BIRD'S LIFE FOR 3DO

Created and narrated by actress and children's entertainment producer Shelley Duvall, Shelly Duvall's It's a Bird's Life is a story about a group of lovable, zany parrots that embark on an odyssey from Los Angeles to the Amazon forest and back again. Created for children age three and up, Shelly Duvall's It's a Bird's Life combines an original story, artwork by award-winning Teenage Mutant Ninja Turtle illustrator Andrew Pratt, and multimedia extras to create an entertaining and educational story experience. This new version for the 3DO system includes new games and activities not achievable on any other platform. For instance, for 3DO it features a 3-D finger painting game where children can leave rainbow paint trails with different objects to achieve a colorful kaleidoscope effect. ($54.95) Sanctuary Woods Multimedia Corp., 1875 S. Grant St., San Mateo, CA 94402. (415)578-6340.

ZURK'S LEARNING SAFARI

Zurk's Learning Safari is a colorful, content-rich multimedia exploratorium that introduces children three to seven years old to cognitive skills applicable to life science, reading, and basic math. Zurk and a cast of animals leads young children through seven enchanting activities that foster open-ended, explore-and-discover learning. It features enchanting water color-based graphics comparable to the art found in the best children's books, as well as original African-flavored music. The program promotes discovery-based, whole-mind learning, and offers a positive, supportive environment that encourages children to explore and learn at their own pace. ($59.95, Mac or PC) Soleil Software, Inc., 3853 Grove Court, Palo Alto, CA 94303. (415)494-0114.

AUTOMENU FOR KIDS

Parents and teachers can use Automenu for Kids to prevent kids from accessing areas of the computer that are "off limits." The menu has a "lock and key" system which can, for example, give kids access to only games and learning software. Aimed at children between the ages of three and twelve, Automenu for Kids starts selected software quickly and easily, with a keystroke or click of the mouse button. Kids can choose from three colorful menu backgrounds: a spaceship cockpit, a video

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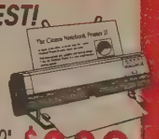

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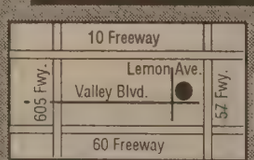

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arcade, and a city street. Older children can also use the security features. They can assign a "secret word" to their menu to protect it from use by younger siblings. ($29.95) Magee Enterprises, Inc. 2909 Langford Rd., Suite A600, Norcross, GA 30071-1506. (404)446-6611.

GAMES

THE EVEN MORE INCREDIBLE MACHINE

A successor to the original The Incredible Machine, the game asks players to piece together convoluted Rube Goldberg-style contraptions whose final movement solves stated puzzle goals. With its ascending levels of difficulty, the game is designed for tinkerers of all ages. In addition to 160 levels of brain-busting pre-set puzzles, new characters, new music, and expanded musical hot keys, The Even More Incredible Machine also delivers a unique new tool for building, saving, and trading puzzle machines with other players. This puzzle builder allows friends to challenge each other online or through the mail. ($49.94, Macintosh, MS-DOS, and Windows) Dynamix, Inc., Part of Sierra Online, 1600 Millrace Dr., Eugene, OR 97403. 1-800-326-6654.

AXIS THE GAMECHEATER

AXIS the Gamecheater allows you to cheat on your favorite Macintosh and DOS computer games. You can outfit yourself with additional lives, weaponry, time, money, or fuel. In other words, with Axis installed in your computer you can override predefined game functions. Before playing a particular game, you simply open the AXIS control panel and choose that game. You then choose among the "game enhancements" available. While playing the game you can activate these game enhancements with hot keys that appear on-screen. Fifty Macintosh games and forty PC-DOS games are currently supported by AXIS. Support for new games is always in development and available for a nominal fee. ($59.95 for Mac, $69.95 for PC) Baseline Publishing, Inc., 1760 Moriah Woods, Suite 5, Memphis, TN 38117. (901)682-9676.

CHESSMASTER 3000

This new Macintosh version of Chessmaster 3000 introduces features previously found only in the PC version. They include a teach and advice mode to help users improve their skill; chess set options that include a medieval fantasy collection, an undersea group, and a Chinese set; and viewing perspectives that include 3-D, 2-D, and a 90 degree rotation of the board for viewing from all sides. A War Room feature provides windows of statistics, listing captured pieces, recalling all past moves, and revealing possible future moves for consideration. Players may create their own opponents or choose from a library of personalities with different playing styles and skill levels. Chessmaster 3000 supports 256-color and monochrome graphics. ($49.95) The Software Toolworks, 60 Leveroni Ct., Novato, CA 94949. (415)883-3000.

FIREFALL ARCADE

Firefall Arcade is a fast-paced game for the Macintosh in the style of classic video. The object is to destroy as many fireworks as pos-

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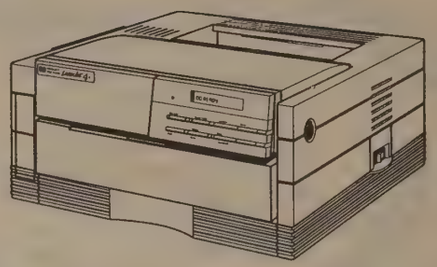

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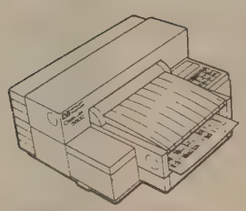

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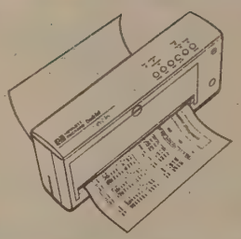

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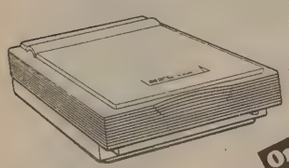

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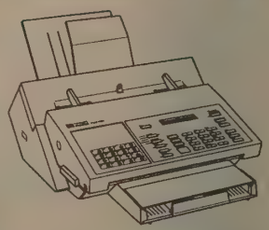

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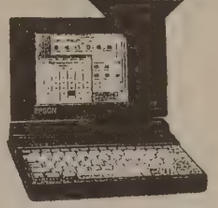

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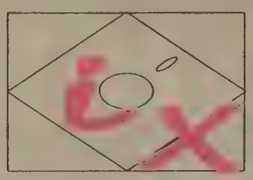

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101 KEYBOARD

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386SX-40 Beginner

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SVGA MONITOR .39 w/CARD
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2Serial,1Parallel,1Game Port
101 KEYBOARD
MOUSE & PAD

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UPGRADE LOCAL BUS ONLY $20

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200W POWER SUPPLY
170MB HARD DRIVE
2MB RAM
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1.44 FLOPPY DRIVE
SVGA MONITOR .39 w/CARD
SIDE CONTROLLER
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MONITORS

14" Monochrome	$ 84
14" SVGA .39	$ 199
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14" SVGA .28 NI	$ 265
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40MB	$ 105	250MB	$ 215
120MB	CALL	345MB	$ 285
170MB	CALL	520MB	CALL
213MB	CALL	SCSI HARD DRIVE	
16 bit SCSI Controller			$ 59
ISA SCSI-2 Controller			$ 149
VLB SCSI-2 Controller			$ 149
SIDE Controller			$ 15

MODEMS & PARTS

High Resolution Mouse	$ 8
Modem 2400 Internal	$ 29
Fax/Modem 9600 Int	$ 42
Fax/Modem 14400 Int	$ 135
Ethernet Card 16bit	$ 49
ARX-Net 8bit	$ 39
Windows for Workgroup	$ 149
Poket Ethernet Adapter	$ 159

Christmas Special!

486DX-33MHZ
MULTI MEDIA SYSTEM
16Bit Sound Blaster
Double Speed CD-ROM
5 CDs & Speaker Set
256K Cache
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200W Power Supply
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Multi Media Package (Sound Blaster 16Bit Card, 4CDs Double Speed CD-ROM, Speaker) $389

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Mitsumi CD-ROM	$ 159
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HYUNDAI COURIER $950
@386SXL-25MHz @2MB RAM
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486DX-33 Business System

256K Cache Memory
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2MB RAM
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1.44 FLOPPY DRIVE
SVGA MONITOR .28 NI
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MICROTIMES™

Annual California Buyer's Guide

Don't miss this important issue! A special edition that includes listings of Southern California's retailers, VAR's, consultants and the services that they offer. This resource will help you with all your 1994 purchasing decisions.

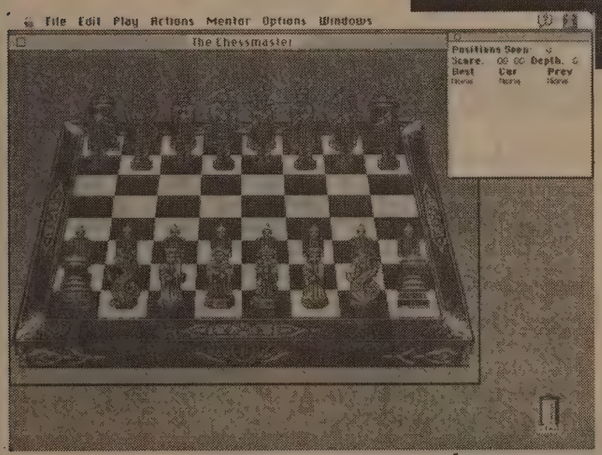
Cover date: December 13, 1993

LOOK FOR IT IN TWO WEEKS!

HOLIDAY Gift Guide

Continued from page 116

sible as they slink their way down your computer screen past various barriers. As the player progresses through levels, the fireworks become more ferocious and the challenge grows. Players can gain more maneuvering space and collect powerups (three-way fire, double ships, invincibility, the ability to pass through barriers, and heat-seeking missiles) by clearing barriers. Additional challenges include everlasting barriers, barrier droppers, and a huge cube that pursues you relentlessly trying to destroy your ship. ($49.95)



Left: Chessmaster 3000 from The Software Toolworks; Top Left: Grateful Dead motifs for mouse pads, wrist rests, and desk sets; Top: Axis the Gamecheater from Baseline Publishing, Inc.

Inline Software, Inc., 308 Main St., Lakeville, CT 06039. 1-800-453-7671.

ACCESSORIES

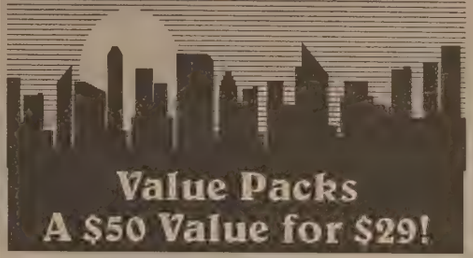
GRATEFUL DEAD ON YOUR DESK

In celebration of the creativity and popularity of the Grateful Dead, Computer Expressions has introduced a new line of mouse pads, wrist rests, and desk sets featuring popular Grateful Dead motifs. Four colorful choices are available: 1) Skeleton & Roses mouse pad; 2) Space Your Face Combo wrist rest/mouse pad or on standard mouse pad; 3) Dancing Skeletons wrist rest; and 4) Teddy Bears desk set bundles a wrist rest, mouse pad, and four coasters in a recycled plastic clamshell package. Computer Expressions uses a special high-resolution printing process to permanently imprint the intricate Grateful Dead designs on its mouse pads and wrist rests. Because designs are never silk-screened, they are guaranteed not to wear or fade away. (Suggested list price for the mouse pads, $10; wrist rests and combos, $15; desk sets, $25) Computer Expressions, Inc., 4200 Mitchell St., Philadelphia, PA 19128. (215)487-7700. Or call: Greatful Dead Merchandising, 1-800-CAL-DEAD.

LEATHER DISKETTE HOLDER

A unique pocket-size carrying case adds the finishing touch to software presentations. Give it to clients or friends or use it yourself to safely carry your diskettes.

Emerald City Emporium



10 High-Quality Disks per pack
(includes plastic disk case for easy wrapping)

GIPK#01 Male Calendar Models **Set #1**
Calendar style .Gif format pictures of men in very sexy poses. These are G-Rated photos but show flesh.

GIPK#02 Super VGA GIF'S **Set #1**
Over 12 megs of beautiful high-quality G-rated nature, wildlife, and architectural photos. All pictures in 1024x768x256.

GIPK#03 Female Calendar Models **Set #1**
World's most beautiful swimsuit models and cover girls. For hours of viewing enjoyment. All pictures in 1024x768x256 format.

GIPK#04 Female Calendar Models **Set #2**
Complete your collection! This set has an additional 12 megs of the most beautiful swimsuit models and cover girls. All pictures in 1024x768x256 format.

KIPK#01 Kids Programs **Set #1**
Many educational-style programs and games for kids ages 2–10. Megs of fun to keep your kids entertained for hours.

TTPK#01 True Type Fonts **Set #1**
Approximately 80 fonts that are different than what you would find in Windows 3.1.

TTPK#02 True Type Fonts **Set #2**
Approximately 80 more fonts that are different than what you would find in Windows 3.1.

WNPK#01 Windows Programs Pkg. **Set #1**
Over 12 Megs of the top requested shareware programs for windows. Everything from utilities, applications, graphics, to the kitchen sink and more.

XRPK#01 XXX-Rated Lesbian **Set #1**
Super VGA X-Rated photos of hard-core lesbian action. Not for the faintheartedl. All pictures in 1024x768x256 format.

XRPK#02 XXX-Rated Animation **Set #1**
Mini VGA X-Rated movies just like the ones that your Mama told would make you blind, or worse.

XRPK#03 XXX-Rated GIF'S **Set #1**
Super VGA shots of men and women locked in the heat of passion. Definitely for private viewing. All pictures in 1024x768x256 format.

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# of sets x _____
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TOTAL ..... $_____
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Mailing Address: _____
Phone #: _____

Make checks payable to: Emerald City
P. O. Box #4, Redwood City, CA 94064
For Questions Call: 415-364-1915

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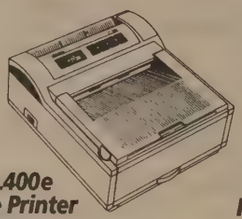
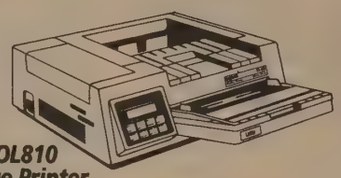


OL400e Page Printer



OL810 Page Printer

$509 **$895**

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Santa Ana
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Santa Fe Springs
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March 18, 19, 20, 1994

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The *Los Angeles Computer Fair* takes direct marketing to a new level by bringing manufacturers, resellers and more than 50,000 prospects together in one location.

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CO-SPONSORS: MicroTimes & Pasadena IBM Users Group (Steve Bass)

National Productions, Inc.
16175 Monterey Road, Ste. 4, Morgan Hill, CA 95037
(408) 778-5200 FAX (408) 779-1374

PRODUCT SPOTLIGHT

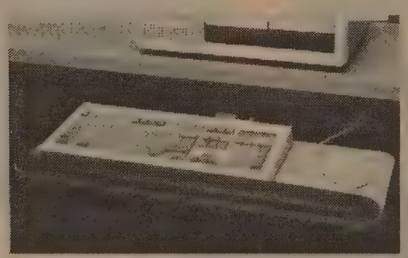
Hand-made of premium smooth-grained leather, the case holds two 3.5" diskettes and a business card. It is available in burgundy or black. ($15.95 each, six for $89, plus shipping. Volume pricing available) Browning & Drum, PO Box 468, Brookline Village, MA 02147. (617)566-4300, 1-800-825-2060.

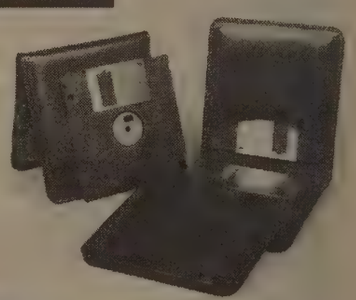
SCREENIES

Screenies are frames for your computer monitor's screen. They mount to your PC or Mac monitor with Velcro, surrounding your screen with a variety of illustrated scenes and designs, including Fun House, Ren & Stimpy, and Star Trek. Other, more practical types of Screenies function as corkboards, wipe-off memo boards, greeting cards, and calendars. The selection of styles is enormous. Screenies come in sizes for standard displays (13", 14", and 15") and for the Classic Mac size. (Standard sizes, $11.95; Classic Mac size, $9.95) Screenies, 18971 Sonoma Hwy., Sonoma, CA 95476. (707)939-6060.

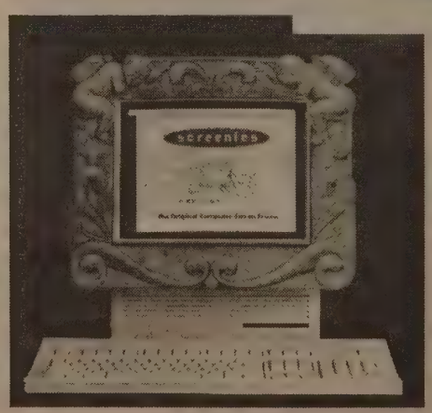
TAME YOUR PC

Tame Your PC is a video guide to personal computing that helps new and novice users become computer literate. The video instructs viewers on almost one hundred subjects ranging from backing up to DOS commands to installing software. Tame Your PC includes a supplemental disk with an interactive tutorial, diagnostic software, and a menu system. ($49.95) Just Push Play Videos, Inc., 424 Rocklin Rd., Suite 8, Rocklin, CA 95677. 1-800-434-7500.





Top: Combo-Platforms by Work Rite; Right: Leather Diskette Holders from Browning & Drum; Below: Screenies monitor frames



COMBO-PLATFORMS

Combo-Platforms are wrist rests with a keyboard tray that includes a surface for using the mouse. With

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POWER COMPUTERS 486DX-33MHz $1270

INTEL CPU, ISA, **256KB** Cache
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1.44MB TEAC Floppy Disk
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. 1 Game Port
1MB Trident 8900CL Video Board
14" NI SVGA **SHAMROCK**
Monitor (.28mm)
Mini Tower, 200W Power Supply,
Digital Display
8801 Lite-On Enhanced Keyboard
Genius Mouse & Pad
72 Hours Burn In

POWER COMPUTERS 486DX-50MHz $1640

INTEL CPU, ISA, **256KB** Cache
AMI Bios
CPU Cooling Fan
8MB Memory (up to 32MB)
254MB Conner Hard Disk
1.2MB TEAC Floppy Disk
1.44MB TEAC Floppy Disk
IDE, 2 Serial, 1 Parallel,
1 Game Port
1MB Trident 8900CL Video Board
14" NI SVGA **SHAMROCK**
Monitor (.28mm)
Medium Tower, 230W Power
Supply, Digital Display
8801 Lite-On Enhanced Keyboard
Genius Mouse & Pad
72 Hours Burn In

POWER COMPUTERS 486DX2-66MHz $1680

INTEL CPU, ISA, **256KB** Cache
AMI Bios
CPU Cooling Fan
8MB Memory (up to 32MB)
254MB Conner Hard Disk
1.2MB TEAC Floppy Disk
1.44MB TEAC Floppy Disk
IDE, 2 Serial, 1 Parallel,
1 Game Port
1MB Trident 8900CL Video Board
14" NI SVGA **SHAMROCK**
Monitor (.28mm)
Medium Tower, 230W Power
Supply, Digital Display
8801 Lite-On Enhanced Keyboard
Genius Mouse & Pad
72 Hours Burn In

POWER COMPUTERS 486DX-33MHz $1329

INTEL CPU, **VESA Local Bus,**
256KB Cache
AMI Bios
ZIF Socket (Intel OverDrive Ready),
Made in the USA
CPU Cooling Fan
4MB Memory (up to 32MB)
254MB Conner Hard Disk
1.2MB TEAC Floppy Disk
1.44MB TEAC Floppy Disk
VESA IDE, 2 Serial, 1 Parallel,
1 Game Port
VESA 1MB Video Board
14" NI SVGA **SHAMROCK**
Monitor (.28mm)
Mini Tower, 200W Power Supply,
Digital Display
8801 Lite-On Enhanced Keyboard
Genius Mouse & Pad
72 Hours Burn In

POWER COMPUTERS 486DX-50MHz $1669

INTEL CPU, **VESA Local Bus,**
256KB Cache
AMI Bios
ZIF Socket (Intel OverDrive Ready)
Made in the USA
CPU Cooling Fan
8MB Memory (up to 32MB)
254MB Conner Hard Disk
1.2MB TEAC Floppy Disk
1.44MB TEAC Floppy Disk
VESA IDE, 2 Serial, 1 Parallel,
1 Game Port
VESA 1MB Video Board
14" NI SVGA **SHAMROCK**
Monitor (.28mm)
Medium Tower, 230W Power
Supply, Digital Display
8801 Lite-On Enhanced Keyboard
Genius Mouse & Pad
72 Hours Burn In

POWER COMPUTERS 486DX2-66MHz $1749

INTEL CPU, **VESA Local Bus,**
256KB Cache
AMI Bios
ZIF Socket (Intel OverDrive Ready),
Made in the USA
CPU Cooling Fan
8MB Memory (up to 32MB)
254MB Conner Hard Disk
1.2MB TEAC Floppy Disk
1.44MB TEAC Floppy Disk
VESA IDE, 2 Serial, 1 Parallel,
1 Game Port
VESA 1MB Video Board
14" NI SVGA **SHAMROCK**
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Cut plotting time in half with *PLOTfast*. *PLOTfast* will quickly optimize your AutoCad plot files and supports both HP and Houston Instruments formats.

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Reads a PADS-PCB & PADS2000 ASCII Database, extracts all graphic and structural data and produces a file in DXF format compatible with AutoCAD and other programs that accept DXF input. Allows a CAD design to be documented through detailed drawings.

CADfab.....$149
Reads a PADS-PCB & PADS2000 ASCII database, extracts the board outline and all drill data and produces a file containing the board outline, drill symbols and a custom hole chart in DXF format compatible with AutoCAD and other programs that accept DXF format. Allows a CAD design to be used to create a PCB fabrication drawing.

CADprobe.....$295
Reads a PADS-PCB, PADS2000 & PCAD ASCII database, extracts the coordinates for all the testable points and their attached signals and produces a file containing the data in a format which can be parsed for use with various test machines.

CADpick.....$395
Reads a PADS or PCAD ASCII database, displays all of the parts and manually or automatically assigns the necessary insertion points for the "pick and place" machines. The output can be easily customized for automatic placement and for other engineering tasks. Retrieves data from a CAD design in order to create a PCB Fabrication Drawing.

CADdxp.....$49
Provides the missing report that PADS left out. Reads your PADS Libraries and PADS.ASC files and generates a report listing all the parts that utilize each Part Decal. (PADS only lists the Decals used by each part).

CADfoto.....$49
This program is a utility which automatically creates an error-free set of photo plotting instruction for the photo house. It also allows the user to view the Gerber files one additional time before submitting them to the photo house for plotting.

NETWORK PRODUCTS

ETHERNET 10Base2 (Coax) Products
8 Bit NE1000 Compatible Coax Card $53
16 Bit NE2000 Compatible Coax Card $55
16 Bit NE2000 Compatible Coax Card $54
16 Bit NE2000 Compatible Jumperless Coax Card $62
16 Bit NE2100 Compatible Bus Master Coax Card $76

ETHERNET 10BaseT (Twisted Pairs) Products
8 Bit 10BASE NE1000 Compatible Twisted Pair Card $54
16 Bit NE2000 Compatible Twisted Pair Card $50
16 Bit NE2000 Compatible Jumperless Twisted Pair Card $62

ETHERNET Pocket Products
Pocket Size BNC/TP 2-IN-1 Adapter $138

ETHERNET Combo Products
16 Bit NE2000+ Compatible Jumperless Card, 3-in-1 Card $72
16 Bit NE2000 Compatible Jumperless Card, 3-in-1 Card $65
16 Bit NE2000 Compatible AUI/BNC/TP 3-in-1 Card $55
32 Bit EISA AUI/BNC/TP 3-IN-1 Card $249
32 Bit VESA Local Bus AUI/BNC/TP 3-in-1 Card $325

ETHERNET Boot Products
NE1000/NE2000 Boot ROM $10
Arcnet Boot ROM $10

ETHERNET HUB Products
6 Port Concentrator,1 BNC/6 RJ-45 ..... $199
8 Port Concentrator,1 AUI/1BNC/8RJ-45 ..... $219
9 Port Internal Concentrator, 8RJ-45 (w/Concentrator Network Management Software) $330
12 Port Concentrator,1 AUI/1 BNC/12 RJ-45 ..... $389
16 Port Concentrator, 1 AUI/1 BNC/16 RJ-45 ..... $459
Ethernet Repeater 2 BNC (Extends to 600 ft.) $279

ETHERNET for Micro Channel
16 Bit NE2000 10BASE2 Card (CNET 800E/2) $182
16 Bit NE2000 10BASET Card (CNET 800E/2) $182
16 Bit NE2000 Combo 2-in-1, BNC/RJ-45, (CNET) $182

ARCNET Products
8 Bit Card Star/Coax (SMC) $39
16 Bit Card Star/Coax (SMC) $49
4 Port Passive Hub $10
8 Port Active Hub $119

Network Cabling & Accessories
Crimping Tool for RG-58 & RG-62 Cable $21
Cutter for RG-58 & RG-62 Cable $18
Crimping Tool for RJ-45 Twisted Pair Cable $23
15 Feet RG-58 Cable w/Connectors $8
25 Feet RG-58 Cable w/Connectors $10
30 Feet RG-58 Cable w/Connectors $12
50 Feet RG-58 Cable w/Connectors $15
RJ-45 Cable Connector ..... $.75
RG-58/RG-62 Cable Connector $1.20
RG-58 T-Connector $2
RG-58 50 Ohm Terminator $1.95
RG 58 Cable (per foot) ..... $ .21
RG-58 Teflon Cable (per foot) ..... $ .23
RG-62 Cable (per foot) ..... $ .25
RJ-45 Wire (per foot) ..... $ .15
Bulk 1000 Feet RG-58 Cable, UL Std $109
Bulk 1000 Feet RJ-45 4-Pair Cable, UL Std. $105

Network UPS Products
FAIRSTONE 250VA Stand-By UPS $139.00
FAIRSTONE 500VA Stand-By UPS $275.00
FAIRSTONE 750VA Stand-By UPS $319.00

HARD DISKS

CONNER IDE, 254MB	$220
CONNER IDE, 344MB	$299
CONNER IDE, 545MB	$599
MAXTOR IDE, 213MB	$226
MAXTOR IDE, 245MB	$229
MAXTOR IDE, 345MB	$299
MAXTOR IDE, 540MB	$775

FLOPPY DISKS

TEAC 1.2MB 5.25"	$50
TEAC 1.44MB 3.5"	$43
TEAC COMBO 505	$122
TEAC 2.88MB	$89
5.25" Mounting Kit for 3.5" Drive	$3

KEYBOARDS

Lite-On 8801	$23
FK-2001	$34
FK-8000	$36
FK-9000	$57

PRINTER

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All product names are trademarks of their respective companies.

HOLIDAY Gift Guide

Combo-Platforms, the mouse and keyboard rest at the same elevation. The wrist rest also extends out to the end of the mouse surface to provide wrist support for mouse use. Combo-Platforms are designed to prevent repetitive motion injuries such as carpal tunnel syndrome. The different sizes fit inside or attach to adjustable keyboard platforms from most manufacturers. ($65 to $95 depending on size and material) Work Rite, 830 Sweetser Ave., #B, Novato, CA 94945. (415)898-8977.

BOOKS

THE MULTIMEDIA DIRECTORY

The first edition of *The Multimedia Directory* profiles hundres of active multimedia companies based in the United States and Canada. The majority of the companies listed are software producers. The remaining companies are either hardware producers, software publishers, interactive television networks, or Hollywood entertainment firms with interactive/multimedia divisions. The Directory is expanded, updated, and published every six months. Each listing contains: Company name, addresses, telephone and fax numbers, product titles, personnel names and titles, who's supporting what platforms, and who specializes in what markets. ($49.95) The Carronage Group, 717 S. Cochran Ave., #9, PO Box 36157, Los Angeles, CA 90036. (213)935-7600.

CONNECTING TO THE INTERNET: AN O'REILLY BUYER'S GUIDE

Connecting to the Internet, by Internet veteran Susan Estrada, is the first guide to show users how to assess their needs so that they can determine the kind of Internet service that is best for them. The book begins with a discussion of how the Internet works, network performance, who is using the Internet, and how you can use your Internet connection. It also describes how to find a local access provider and evaluate the services they offer. The book closes with appendices listing public access service providers in the US, Canada, and internationally. To help readers make the right decision, *Connecting to the Internet* provides checklists for evaluating their Internet needs, choosing a network provider, and deciding on dialup and dedicated line connections. ($15.95) O'Reilly & Associates, Inc., 103 Morris St., Suite A, Sebastopol, CA 95472. 1-800-998-9938. Email: order@ora.com.

Top: *The Internet Starter Kit for the Macintosh*, by Adam C. Engst; Middle: *The Multimedia Directory* from The Carronage Group; Bottom: *Defying Gravity: The Making of Newton* by Doug Menuez and Markos Kounalakis

INTERNET STARTER KIT FOR THE MACINTOSH

The *Internet Starter Kit for the Macintosh,* by Adam C. Engst, covers all guidelines for connecting your Macintosh to the Internet and how to get the most out of it. It is packaged with a disk that includes the Eudora mail reader, InterSLIP for modem connections, Fetch 2.1.1 and TurboGopher for finding new information, and StuffIt Expander, a universal file unpacker. It also includes a free copy of MacTCP software. The book comes with a free trial connection to the Internet for two weeks. At the end of the trial period, you can sign up for regular Internet access at a discount through Northwest Nexus in Seattle, Washington. ($29.92 book/disk set) Hayden Books, 201 W. 103rd St., Indianapolis, IN 46290. 1-800-428-5331.

DEFYING GRAVITY: THE MAKING OF NEWTON

Defying Gravity documents the creation of Newton, Apple Computer's new portable, pen-based, hand-held computer. The book chronicles both the human drama of the Apple team's ambitious effort and the process by which the idea was born, translated into a product, and sold in the competitive marketplace. Given unrestricted access and complete editorial control by Apple, photojournalist Doug Menuez and *Newsweek*/NBC correspondent Markos Kounalakis worked for two years on the 192-page book, which contains 140 photographs. ($29.95) Beyond Words Publishing, Inc., 13950 NW Pumpkin Ridge Rd., Hillsboro, OR 97123. (503)647-5109.

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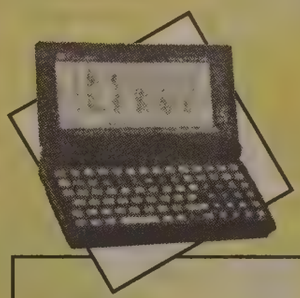

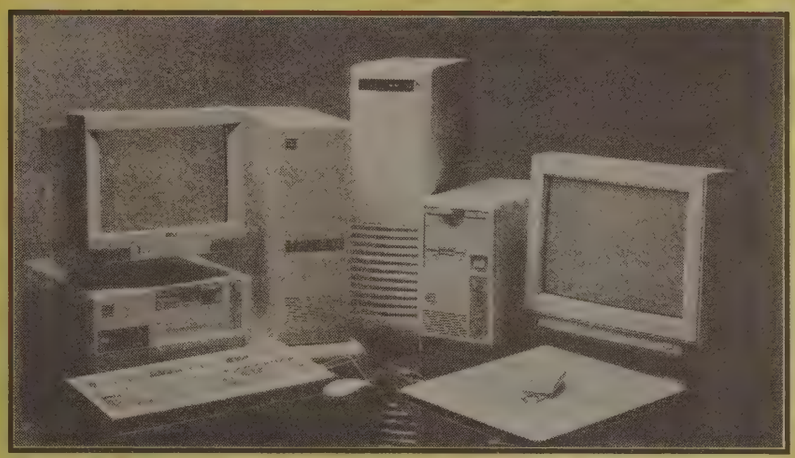

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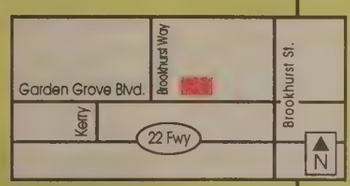
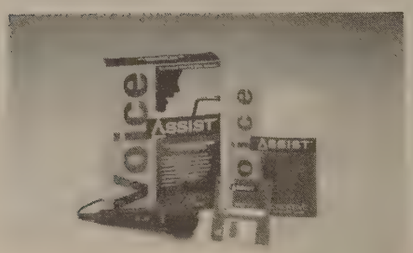
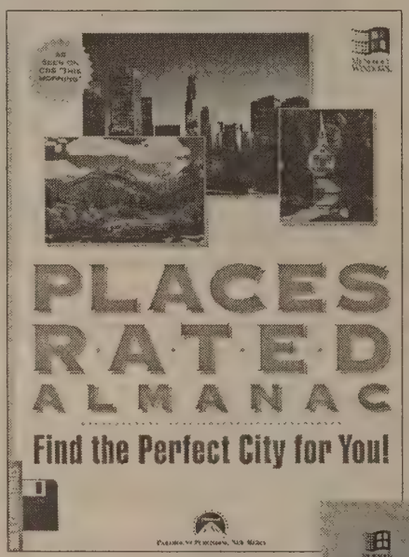


HOLIDAY Gift Guide

this user-friendly, speech recognition tool. Voice Assist features quick response, accurate work recognition, and provides simple verbal representation of complex macros.



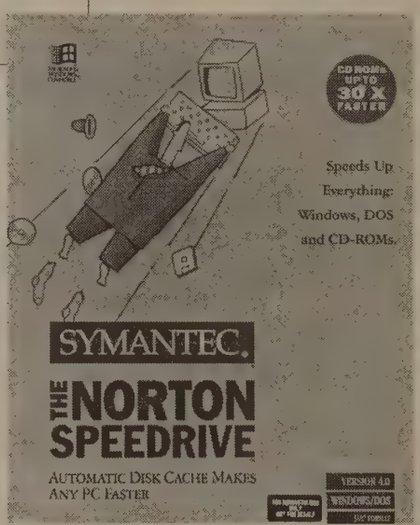


Clockwise from above: Creative Voice Assist speech recognition tool; Places Rated Almanac; Musicware Piano for Windows; Norton Speedrive from Symantec; SmartSync from Nomadic Systems, Inc.

It supports up to 256 individual users, requiring minimal disk space. A single user file typically occupies about 500K of memory. The microphone is included and is compatible with most sound cards including the SoundBlaster series. ($99.95) Creative Labs, Inc., 1901 McCarthy Blvd., Milpitas, CA 95035. 1-800-998-5227.

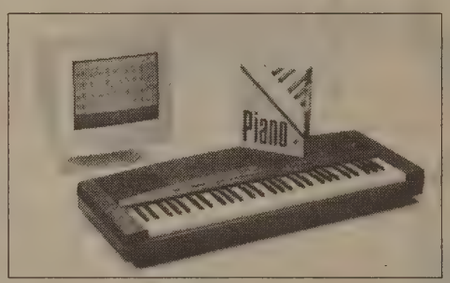
NORTON SPEEDRIVE

Norton Speedrive is a PC disk cache that accelerates game information access and enhances game animation and speech. Norton Speedrive increases Windows, DOS, and CD-ROM game performance by as much as 50%. The program supports all disk drives, including Syquest, Bernoulli, and all popular compressed drives. It can be installed either as a device driver or a TSR (terminate-stay-resident). ($99) Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014-2132. 1-800-441-7234.



MUSICWARE PIANO FOR WINDOWS

Musicware Piano combines proven piano teaching methods with the power and ease of Windows, taking users step-by-step from the basics to an advanced level of two-hand playing competency. Used in conjunction with a MIDI piano keyboard (with four octaves or more) and a sound card with built-in MIDI support, Musicware Piano provides an entire year's worth of piano lessons—more than two hundred in all. Providing instruction in sight reading, ear training, rhythm, and music theory fundamentals, this software package delivers on-screen help and regularly tests and individually tracks a student's progress. ($129.95) Musicware, Inc., 8654 154th Ave. N.E., Redmond, WA 98052. (206)881-9797.



HSC DIGITAL MORPH

Running under Windows, Digital Morph allows users to create morphs, specially altered digital images. HSC Digital Morph can morph full-motion images in .AVI or .FLC files and warp images by manipulating the grid points to which images must conform. The software features painting tools which can blend colors together and smooth out jagged edges or facial wrinkles. It also has cutout, animation, and resizing tools. For home users of HSC Digital Morph who may not own a scanner, HSC will scan four 5" x 7" images free of charge for each registered user before February 15, 1994. ($149) HSC Software, Inc., 1661 Lincoln Blvd., Suite 101, Santa Monica, CA 90404. (310)392-8441.

CLARIS IMAGINARIA FOR WINDOWS

Imaginaria, a multimedia screen saver collection for Windows, offers images, animated stories with offbeat characters and stunning scenery from real to surreal using full-screen animation, and original sounds and music. Features include time activation of screen animation for privacy and screen protection; adjustable animation priority shares the computer's resources, eliminating potential system conflicts; password protection; a hot key to instantly conceal the screen from onlookers; minimal hard disk storage requirements via

Continued on page 136

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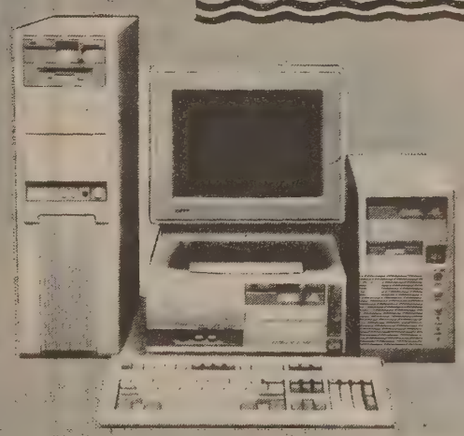

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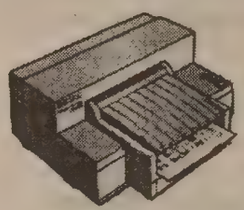

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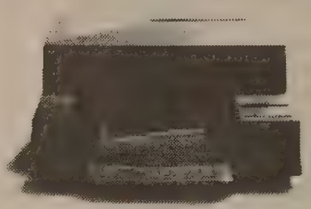

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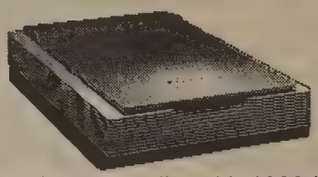

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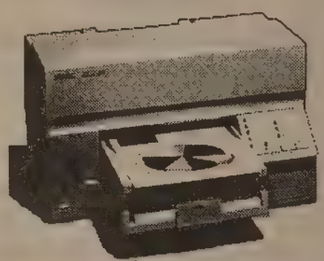

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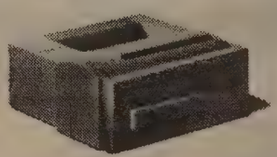

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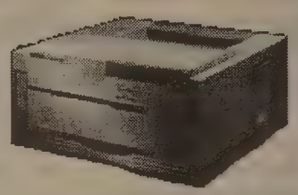

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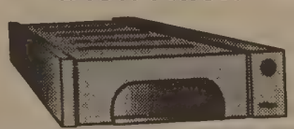

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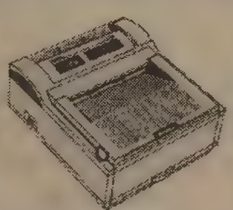

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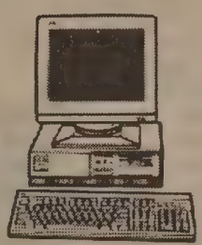

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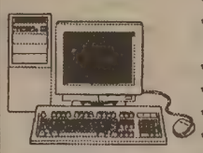

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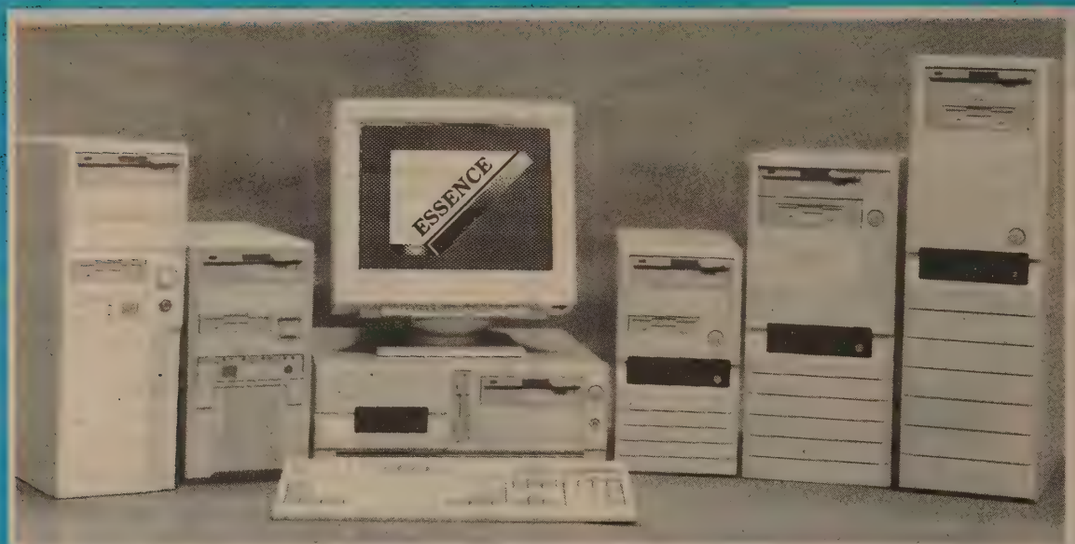

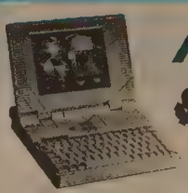

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Vega — MADE IN THE U.S.A.
PCI/VLB Systems
486DX2-66Mhz .... $1460.
486DX-50Mhz ..... $1410.
486DX2-50Mhz ..... $1310.
486DX-40Mhz ..... $1260.
486DX-33Mhz ..... $1280.

VEGA 486 M/B, 4PCI & 3VLB Slots, ZIF Socket, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory
TEAC 1.2Mb & 1.44Mb Floppy Drives w/ PCI IDE Controller
Orchid Fahrenheit 1Mb VLB Graphics Accelerator SVGA Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/Twin Fans & 250Watt UL P.S.

Vega — MADE IN THE U.S.A.
Local Bus Systems
486DX2-66Mhz .... $1290.
486DX-50Mhz ..... $1240.
486DX2-50Mhz ..... $1140.
486DX-40Mhz ..... $1090.
486DX-33Mhz ..... $1110.

VEGA 486 M/B, 3VLB Slots, ZIF Socket, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 64Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives w/ VLB IDE Controller
Orchid Fahrenheit 1Mb VLB Graphics Accelerator SVGA Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/Twin Fans & 250Watt UL P.S.

Vega — MADE IN THE U.S.A.
ISA Bus Systems
486DX2-66Mhz ..... $1105.
486DX-50Mhz ..... $1045.
486DX2-50Mhz ..... $920.
486DX-40Mhz ..... $870.
486DX-33Mhz ..... $890.
486SX-33Mhz ..... $740.
.486SX-25Mhz ..... $700.
386DX-40Mhz ..... $650.

VEGA 3/486 M/B, 64K Cache, 256K Cache **DX2-66/DX50**
4Mb Memory, TEAC 1.2Mb & 1.44Mb FDD, IDE Controller
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-330 Mini-Vertical Case w/Twin Fans & 220Watt UL P.S.

AIR — Advanced Integration Research, Inc. — MADE IN THE U.S.A.
EISA/VLB Systems
486DX2-66Mhz .... $1595.
486DX-50Mhz ..... $1545.
486DX2-50Mhz .... $1445.
486DX-40Mhz ..... $1395.
486DX-33Mhz ..... $1415.

AIR 486 M/B, 8EISA & 3VLB Slots, P24T P5, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 64Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives & DTC 2290 EISA IDE Controller
Orchid Fahrenheit 1Mb VLB Graphics Accelerator SVGA Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/Twin Fans & 250Watt UL P.S.

AIR — Advanced Integration Research, Inc. — MADE IN THE U.S.A.
Local Bus Systems
486DX2-66Mhz ..... $1310.
486DX-50Mhz ..... $1260.
486DX2-50Mhz ..... $1160.
486DX-40Mhz ..... $1110.
486DX-33Mhz ..... $1130.

AIR 486 M/B, 3VLB Slots, ZIF Socket, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 32Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives w/ VLB IDE Controller
Orchid Fahrenheit 1Mb VLB Graphics Accelerator SVGA Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/Twin Fans & 250Watt UL P.S.

ESSENCE
EISA/VLB Systems
486DX2-66Mhz .... $1250.
486DX2-50Mhz ..... $1100.
486DX-40Mhz ..... $1050.
486DX-33Mhz ..... $1070.

Hint 486 M/B, 3EISA & 2VLB Slots, ZIF Socket, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 128Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives w/ VLB IDE Controller
Cirrus Logic GD5424 1Mb VLB Graphics Accelerator Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/T win Fans & 250Watt UL P.S.

ESSENCE
PCI/VLB Systems
486DX2-66Mhz .... $1480.
486DX-50Mhz ..... $1430.
486DX2-50Mhz .... $1330.
486DX-40Mhz ..... $1280.
486DX-33Mhz ..... $1300.

PCI 486 M/B, 3PCI & 5ISA Slots, ZIF Socket, 256K Cache
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 128Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives & PCI SCSI Bus Master Interface
PCI (S3 Chipset) 1Mb exp. to 2Mb Windows Accelerator
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-230 Mid-Vertical Case w/Twin Fans & 250Watt UL P.S.

ESSENCE
Local Bus Systems
486DX2-66Mhz ..... $1115.
486DX-50Mhz ..... $1065.
486DX2-50Mhz ..... $965.
486DX-40Mhz ..... $915.
486DX-33Mhz ..... $935.
486SX-33Mhz ..... $785.
486SX-25Mhz ..... $745.

VLB 486 M/B, 256K Cache, Add $10.00 for ZIF Socket.
Intel CPU **(AMD for DX-40Mhz)**, 4Mb Memory Exp. to 32Mb
TEAC 1.2Mb & 1.44Mb Floppy Drives w/ VLB IDE Controller
Cirrus Logic GD5424 1Mb VLB Graphics Accelerator Card
2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard
CS-931 Mini-Vertical Case w/230Watt P.S.

ESSENCE
ISA Bus Systems
486DX2-66Mhz .... $1005.
486DX-50Mhz ..... $955.
486DX2-50Mhz ..... $855.
486DX-40Mhz ..... $745.
486DX-33Mhz ..... $815.
486SX-33Mhz ..... $665.
486SX-25Mhz ..... $625.

ISA 486 M/B, 128K Cache, 4Mb Memory, TEAC 1.2Mb & 1.44Mb FDD, IDE Controller 2 Serial, 1 Parallel, 1 Game Ports, Chicony 101 Keyboard CS-931 Mini-Vertical Case w/230Watt P.S.

ESSENCE
486 DLC Systems
486DLC-40Mhz..... $610.
486DLC-33Mhz..... $605.
386DX-40Mhz ..... $530.
386DX-33Mhz ..... $550.
386SX-40Mhz ..... $365.

486DLC M/B w/Cyrix CPU & Math-Co or 386DX/SX M/B
Intel CPU on 386DX-33, AMD CPU on 386DX/SX 40, 4Mb
Memory on DLC/DX, 2Mb Memory on SX, TEAC 1.2Mb &
1.44Mb Floppy Drives & IDE Controller 2 Serial, 1 Parallel,
1 Game Ports, Chicony 101 Keyboard CS-931 Mini-Vertical
Case w/230Watt P.S.

Terms & Conditions:
All parts and systems carry a one year limited warranty except for monitors and printers which are warranted by manufacturers. Any consumable products are not returnable nor refundable. Any opened software is non-refundable. All sales on monitors & printers are final. Repairs need to be sent to the manufacturer. No refund. All returns are subject to our approval and must have prior authorization return items must be in its original condition with invoice. Send shipping prepaid. All refunds or credits are less shipping and bank charges. All refund items must be returned within 14 days of invoice. There will be a 20% restocking fee after the 14 day period and within 30 days of invoice. Thereafter only exchanges and repair for the rest the warranty period. Price, specification and availability subject to change without any notice

Without the Hassles...

System Boards

SYSTEM BOARDS (w/CPU, 0K Memory) - AMI
AMI Enterprise IV 486DX2-66MHz **EISA VLB** M/B w/256K Cache . **$1230.**
AMI Enterprise IV 486DX-50MHz **EISA VLB** M/B w/256K Cache ... **$1145.**
AMI Enterprise IV 486DX-33MHz **EISA VLB** M/B w/256K Cache ..... **$965.**

AMI Baby EISA 486DX2-66MHz **EISA VLB** M/B w/256K Cache ..... **$1205.**
AMI Baby EISA 486DX-50MHz **EISA VLB** M/B w/256K Cache ..... **$890.**
AMI Baby EISA 486DX-33MHz **EISA VLB** M/B w/256K Cache ..... **$695.**

AMI Super Voyager 486DX2-66MHz **VLB** M/B w/256K Cache ..... **$985.**
AMI Super Voyager 486DX-50MHz **VLB** M/B w/256K Cache ..... **$905.**
AMI Super Voyager 486DX-33MHz **VLB** M/B w/256K Cache ..... **$715.**
AMI Super Voyager 486SX-33MHz **VLB** M/B w/256K Cache ..... **$522.**
AMI Super Voyager 486SX-33MHz **VLB** M/B w/64K Cache ..... **$473.**
AMI Super Voyager 486SX-25MHz **VLB** M/B w/64K Cache ..... **$359.**

SYSTEM BOARDS (w/CPU, 0K Memory) - IBM (Alaris)
IBM Leopard 486SLC2-50 **VLB** M/B w/64K Cache ..... **$290.**
IBM Leopard 486SLC2-66 **VLB** M/B w/64K Cache ..... **$345.**
**Leopard 486SLC2 M/B has 2 VLB slots, & 16K Internal Cache*
**Manufactured in the U.S.A. by IBM Charlott, NC, w/ 3yr limited warranty*
**128K Cache Upgrade from 64K +$15., Math-Co Upgrade +$45.*

SYSTEM BOARDS (w/CPU, 0K Memory) - MICRONICS
Micronics EV 486DX2-66MHz **EISA VLB** M/B w/256K Cache ..... **$1165.**
Micronics EV 486DX2-50MHz **EISA VLB** M/B w/256K Cache ..... **$990.**
Micronics EV 486DX-33MHz **EISA VLB** M/B w/256K Cache ..... **$865.**

Micronics E3 486DX2-66MHz **EISA** M/B w/256K Cache ..... **$1065.**
Micronics E3 486DX-50MHz **EISA** M/B w/256K Cache ..... **$1015.**
Micronics E3 486DX-33MHz **EISA** M/B w/256K Cache ..... **$770.**

Micronics MX-30 486DX2-66MHz **VLB** M/B w/256K Cache ..... **$900.**
Micronics MX-30 486DX-50MHz **VLB** M/B w/256K Cache ..... **$735.**
Micronics MX-30 486DX-33MHz **VLB** M/B w/256K Cache ..... **$620.**
Micronics MX-30 486SX-25MHz **VLB** M/B w/0K Cache ..... **$292.**

Micronics Mini 486DX2-66MHz M/B w/256K Cache w/IO ..... **$880.**
Micronics Mini 486DX-50MHz M/B w/256K Cache w/IO ..... **$830.**
Micronics Mini 486DX-50MHz M/B w/256K Cache w/IO ..... **$715.**
Micronics Mini 486DX-33MHz M/B w/256K Cache w/IO ..... **$600.**
Micronics Mini 486SX-25MHz M/B w/0K Cache w/IO ..... **$272.**

SYSTEM BOARDS (w/o CPU, 0K Memory) - EISA
AIR Baby 486 **EISA VLB** M/B w/256K Cache (72pin Memory)..... **$385.**
AIR Baby 486 **EISA VLB** M/B w/256K Cache (30pin Memory)..... **$395.**
**AIR EISA VESA Local Bus M/B has 3 VLB slots &*
Bus Master function, ZIF socket, USA made

VEGA Baby 486 **EISA** M/B w/256K Cache (USA made) ..... **$365.**

SYSTEM BOARDS (w/o CPU, 0K Memory) - VESA Local Bus
AIR Baby 486 **VLB** M/B w/256K Cache ..... **$200.**
**AIR (UMC) VESA Local Bus M/B has 3 VLB slots &*
Bus Master function, ZIF socket

HiNT Baby 486 **EISA VLB** M/B w/256K Cache ..... **$227.**
** HiNT EISA VESA Local Bus M/B has 3 EISA & 2 VLB slots, ZIF*

OPTi Mini 486 **VLB** M/B w/128K Cache (Slave mode)..... **$118.**
OPTi Mini 486 **VLB** M/B w/128K Cache (Bus Master mode) ..... **$122.**
OPTi Mini 486 **VLB** M/B w/256K Cache (Bus Master mode) ..... **$134.**
OPTi Mini 486 **VLB** M/B w/256K Cache (Bus Master mode) w/ZIF .. **$144.**
** OPTi VESA Local Bus M/B has 2 VLB slots*
OPTi **PENTIUM VLB** M/B w/**512k Cache** (Bus Master mode) ..... **$495.**

UMC Mini 486 **VLB** M/B w/256K Cache ..... **$154.**
**UMC VESA Local Bus M/B has 2 VLB slots &*
Bus Master function, ZIF socket

VEGA Mini 486 **VLB** M/B w/256K Cache (USA made) ..... **$185.**
**VEGA VESA Local Bus M/B has 3 VLB slots &*
Bus Master function, ZIF socket

SYSTEM BOARDS (w/o CPU, 0K Memory) - PCI Bus
Opti 486 **PCI** M/B w/256K Cache (USA made) ..... **$549.**
**Opti PCI M/B has 3 PCI & 5 ISA slots, Bus Mastering*
***Includes **Onboard PCI SCSI HDD Interface** &*
***32Bit PCI SVGA Windows Accelerator** (S3 chipset, 16.8M Colors)*

VEGA 486 **PCI/VLB** M/B w/256K Cache (USA made) ..... **$365.**
**VEGA PCI Bus M/B has 4 PCI & 3 VLB slots, Bus Mastering*
***Complete w/ PCI 32-bit IDE Controller*

SYSTEM BOARDS (w/o CPU, 0K Memory) - ISA
VEGA ISA 486, 64MB 6layers M/B:
VEGA Baby 486 M/B w/64K Cache (USA made) ..... **$180.**
VEGA Baby 486 M/B w/256K Cache (USA made) ..... **$205.**
VEGA ISA 3486, 32MB M/B:
VEGA Baby **3486** M/B w/64K Cache (USA made) ..... **$155.**
VEGA Baby **3486** M/B w/256K Cache (USA made) ..... **$180.**

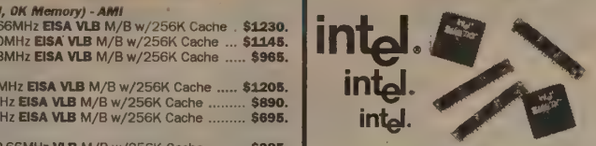
SIS Mini 486 M/B w/256K Cache ..... **$125.**

Cyrix 486DLC M/B (w/o CPU):
OPTi Mini 486DLC M/B w/128K Cache (w/o CPU & Math Co) ..... **$93.**

OPTi Mini 386DX M/B w/128K Cache (w/o CPU)..... **$93.**
OPTi Mini 386DX-40MHz M/B w/128K Cache (w/CPU)..... **$150.**
OPTi Mini 386DX-33MHz M/B w/128K Cache (w/CPU)..... **$174.**

SARC 386SX-40MHz M/B ..... **$92.**

CPU's & RAM



MICROPROCESSORS (CPU)
Intel **PENTIUM 60MHz** CPU ..... **$1400.**
Intel 486DX2-66MHz CPU ..... **$485.**
Intel 486DX-50MHz CPU ..... **$435.**
Intel 486DX2-50MHz CPU ..... **$338.**
AMD 486DX-40MHz CPU ..... **$278.**
Intel 486DX-33MHz CPU ..... **$295.**
Intel 486SX-33MHz CPU (PGA) ..... **$148.**
Intel 486SX-33MHz CPU (PQFP) ..... **$145.**
Intel 486SX-25MHz CPU (PGA) ..... **$109.**
Intel 486SX-25MHz CPU (PQFP) ..... **$108.**
Cyrix 486DLC-40 CPU with Math Co ..... **$126.**
Cyrix 486DLC-33 CPU with Math Co ..... **$124.**
AMD 386DX-40MHz CPU (PGA)..... **$71.**
AMD 386DX-40MHz CPU (PQFP) ..... **$57.**
Intel 386DX-33MHz CPU ..... **$81.**

Call for Current Memory Pricing
F. Valley (714) 546-3110
Irvine (714) 580-6990

Modems

Hayes Modems

Optima Ext. 9600 Data Modem ..... **$335.**
Optima External 9600 Fax/Modem ..... **$348.**
Optima External 14400 Data Modem .... **$355.**
Optima External 14400 Fax/Modem ..... **$378.**

Internal 144/144 Fax/Modem ..... **$179.**
External 144/144 Fax/Modem ..... **$209.**
SatisFAXtion 100 Internal Fax Modem ... **$105.**
SatisFAXtion 200 Internal Fax Modem ... **$305.**
SatisFAXtion 400 Internal Fax Modem ... **$395.**
SatisFAXtion 400 External Fax Modem .. **$405.**

Sportster 9600PC Internal Data Modem **$159.**
Sportster 9600 External Data Modem ... **$189.**
Sportster 14400PC Int. Data Modem .... **$179.**
Sportster 14400 External Data Modem . **$209.**
Sportster 144/144 Int. Fax/Modem ..... **$189.**
Sportster 144/144 Ext.Fax/Modem ..... **$219.**

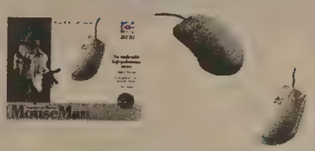
Zoltrix Modems

2400i Int. 2400Baud Data Modem ..... **$29.**
Standard Internal 96/24 Fax/Modem .... **$49.**
Windows Internal 96/24 Fax/Modem ..... **$50.**
Enhanced Internal 96/24 Fax/Modem
- w/Hardware MNP5 & V.42bis ..... **$85.**
Pocket 96/24 Send/Recv. Fax/Modem .. **$99.**
Internal 144/144 Fax/Modem ..... **$145.**
External 144/144 Fax/Modem ..... **$175.**
External Pocket 144/144 Fax/Modem . **$215.**

Aceex Modems

Internal 2400Baud Data Modem ..... **$27.**
Internal 9600/2400 Baud Fax/Modem ... **$49.**
Internal 9600Baud Data Modem ..... **$125.**
External 9600Baud Data Modem ..... **$150.**
Internal 144/144 Fax/Modem ..... **$145.**
External 144/144 Fax/Modem ..... **$175.**
External 192/144 Full Duplex
Modem & 14.4 S/R Fax ..... **$340.**

Mice



Honeywell 3-buttom Serial Mouse ... **$42.**
Keytronic 400dpi Serial Mouse ..... **$18.**
Z-Nix Serial Mouse ..... **$16.**

Dexxa Mouse ..... **$24.**
MouseMan Bus Version ..... **$70.**
MouseMan PS2/Serial Combo ..... **$68.**
Trackman II (Serial) ..... **$79.**
Trackman Portable ..... **$98.**
Cordless Mouse ..... **$96.**
ScanMan 256 w/OCR software ..... **$218.**

Microsoft Corp.

Serial Mouse ..... **$69.**
Bus Mouse ..... **$85.**
BallPoint Mouse (PS-2 Version) ..... **$89.**
BallPoint Mouse (Serial,PS-2 Version) ... **$115.**

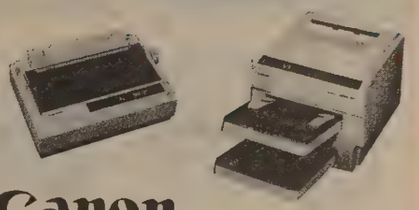
Keyboards

BTC 5339SX 101keys Kbd ..... **$25.**
Chicony KB-5181 101keys Kbd ..... **$38.**
Chicony KB-5311 101keys Kbd ..... **$23.**
Chicony KB-5911 TrackBall Kbd ..... **$63.**
Focus-2001 101keys Kbd w/Hard
Dustcover (Click) ..... **$40.**
Focus-2001B 101keys Kbd w/Hard
Dustcover (Click) - Black ..... **$45.**
Focus-6000 101keys Kbd (Soft click) .. **$36.**
Focus-8000 111keys Kbd w/
(Calculator, Soft click) ..... **$45.**
Focus-9000 128keys Kbd w/
(Programmable, Click) ..... **$62.**
Fujitsu-4700 101keys Kbd ..... **$47.**
Fujitsu-4870 101keys Kbd ..... **$37.**
Honeywell-101WN 101keys Kbd
(3yr. warranty) ..... **$40.**
KT-2000 101keys Kbd (Made by
Keytronic) ..... **$36.**
MaxSwitch 101 keys Keyboard ..... **$36.**
MaxiSwitch 124keys Programmable ... **$63.**

Chassis (Cases)

CS-B01 Baby AT Case w/200W P.S.
(3x5.25",1x3.5") ..... **$51.**
CS-20 Baby AT Case w/200W UL P.S.
(3x5.25",1x3.5") ..... **$83.**
CS-36 Full Vertical Case w/230W UL P.S.
(6x5.25",2HD,Digital) ..... **$122.**
CS-300GTS Full Vertical Case w/300W UL P.S.
(7x5.25", Double fan)..... **$175.**
CS-510 Baby AT Case w/200W P.S.
(3x5.25",1x3.5") ..... **$53.**
CS-109T Desktop Case w/230W P.S.
(2x5.25,1x3.5) ..... **$56.**
CS-609T Mini Vertical Case w/230W P.S.
(2x5.25",3x3.5") ..... **$54.**
CS-609M Mini Vertical Case w/230W P.S.
(2x5.25",3x3.5",Digital) ..... **$56.**
CS-740 Mini Vertical Case w/230W P.S.
(2x5.25",3x3.5",Door,Digital) ..... **$64.**
CS-760 Mid Vertical Case w/230W P.S.
(3x5.25",3x3.5",Door,Digital) ..... **$86.**
CS-780 Full Vertical Case w/230W UL P.S.
(4x5.25",2HD,Door,Digital) ..... **$117.**
CS-932 Mini Vertical Case w/230W P.S.
(2x5.25",3x3.5") ..... **$52.**
CS-923 Mid Vertical Case w/230W P.S.
(3x5.25",3x3.5",Digital) ..... **$72.**
CS-912 Full Vertical Case w/230W UL P.S.
(4x5.25",2HD,Digital) ..... **$105.**
CS-836 MPC Desktop Case w/200W UL P.S. &
20Watts Speakers ..... **$125.**

Printers

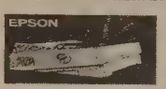


Canon

Canon BJ-10ex Bubble Jet Printer ..... **$245.**
Canon BJ-200 Bubble Jet Printer ..... **$330.**
Canon BJ-230 Bubble Jet Printer (Wide) ..... **$408.**
Canon BJ-300 Bubble Jet Printer ..... **$333.**
Canon BJC-600 Color Bubble Jet Printer ..... **$585.**
Canon BJC-800 Color Bubble Jet Printer ..... **$1533.**
Canon BJC-820 Color Bubble Jet Printer (Wide) ..... **$1647.**

CITIZEN

Citizen PN-48 Notebook Printer (Professional) ..... **$225.**
Citizen NP Color Notebook Printer (Professional) ..... **$318.**
Citizen GSX-190 Printer (9pin/color option) ..... **$159.**
Citizen GSX-230 Quiet Printer (24pin/270cps/color option) ..... **$219.**
Citizen GSX-240 Quiet Printer (24pin/300cps/80col/color opt.) .. **$290.**
Citizen GSX-145 Printer (24pin/192cps/132col/color option) ..... **$355.**
**** Color Kit for Citizen 200GX, GSX-230 or GSX-240 ..... +43.*



Epson Action Printer 2250 (9pin) ..... **$120.**
Epson Action Printer 3250 (24pin) ..... **$179.**
Epson FX-870 Printer (9pin) ..... **$275.**
Epson FX-1170 Printer (9pin, Wide) ..... **$368.**
Epson LQ-570+ Printer (24pin) ..... **$249.**
Epson LQ-870 Printer (24pin) ..... **$455.**
Epson LQ-1070 Printer (24pin, Wide) ..... **$365.**
Epson LQ-1170 Printer (24pin, Wide) ..... **$625.**
Epson LQ-2550 Printer (24pin, Wide) ..... **$930.**
Epson Action Laser 1500 (1MB,6ppm) ..... **$680.**
Epson EPL-8000 Laser Printer ..... **$885.**

Panasonic Office Automation

Panasonic KX-P1150 Printer (9pin/240cps/80col) ..... **$139.**
Panasonic KX-P2023 Quiet (24pin/240cps/80col) ..... **$199.**
Panasonic KX-P2123 Quiet (24pin/240cps/80col/color opt.) ..... **$235.**
Panasonic KX-P2124 Quiet (24pin/320cps/80col/color opt.) ..... **$315.**
Panasonic KX-P2624 Quiet (24pin/300cps/132col) ..... **$380.**
**Color Kit for Panasonic KX-P2180, KX-P2123 or KX-P2124 ..... +45.*
Panasonic KX-P4400 LED Page Printer (4ppm/512k/300dpi) ..... **$519.**
Panasonic KX-P4410 Laser (5ppm/512K/300dpi) ..... **$549.**
Panasonic KX-P4430 Laser w/SaintPrint (5ppm/1MB/300dpi) ... **$659.**
Panasonic KX-P4440 Laser w/SaintPrint (10ppm/1MB/300dpi) . **$1189.**
**** Please call for Panasonic Printer Accessories and Comsumables Products*

OKIDATA

Okidata ML320 ..... **$307.**
Okidata ML321 ..... **$430.**
Okidata OL400P LED Page Printer ..... **$557.**
Okidata OL810 LED Page Printer ..... **$920.**
Okidata OL830 Plus LED Page Printer ..... **$1105.**
Okidata OL850 LED Postscript Printer ..... **$1227.**

Hewlett Packard

Hewlett Packard Portable Printer ..... **$395.**
Hewlett Packard DeskJet 500 InkJet Printer ..... **$350.**
Hewlett Packard DeskJet 550C Color InkJet Printer ..... **$699.**
Hewlett Packard LaserJet 4L Personal Laser ..... **$675.**
Hewlett Packard LaserJet 4P Laser ..... **$995.**
Hewlett Packard LaserJet 4 Laser ..... **$1445.**
Hewlett Packard LaserJet 4M Laser ..... **$1985.**

Chassis (Cases) Continued

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CS-330 Mini Vert Case w/220W UL P.S. (2x5.25",3x3.5",Dig.) ..... **$81.**
CS-530 Desktop w/250W UL P.S. (2x5.25",2x3.5",2HD,Digital) ... **$86.**
CS-730 Baby AT w/220W UL P.S. (2x5.25",1x3.5,1HD,Digital) ..... **$81.**
CS-830 Slim Line w/220W UL P.S. (1x5.25",1x3.5",1HD,Digital).. **$81.**
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Harmony II Multimedia Kit ..... **$365.**
- Panasonic CR-522B Internal CD-ROM Drive - 390ms
- Sound Blaster Pro Stereo Sound Card
- 5 CD titles - MPC Encyclopedia, US Atlas, World Atlas, King's Quest V, & Mixed UP Mother Goose

Harmony IIIA Multimedia Kit ..... **$475.**
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- Sound Blaster 16 Stereo Sound Card - 16bit Sound
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- SONY CDU-31A Internal CD-ROM Drive - 490ms
- Sun Moon Star stereo sound board with sound utilities and bulti-in CDU-31A interface, Sound blaster Pro Basic compatible sound card
- 5 leading multimedia CD titles - Multimedia Encyclopedia '92, World Atlas, U.S. Atlas, Chessmaster 3000 and Mavis Beacon's Typing Program
- A pair of Mini Speakers

MITAC

Mitac Multimedia Upgrade Kit ..... **$375.**
- Mitsumi Internal CRMC CD-ROM (350ms, Kodak Photo CD compatible)
- Sound Galaxy NX Pro Sound Card
- Shielded Stereo Computer Speakers
- Software bundled: Compton's Multimedia Encyclopedia for Windows, The KGB/CIA World Factbook, Dictionary of the Living World, Grammy Awards, CD-ROM Jukebox

CREATIVE
CREATIVE LABS, INC.

Discovery CD 16 Upgrade Kit (Internal) ..... **$445.**
- **Sound Blaster 16** Stereo Sound Card
- Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible
- A pairs of Stereo Speakers
- Software bundled: Multimedia Encyclopedia, The ... Animals!, Lemmings

Edutainment CD 16 Upgrade Kit (Internal)..... **$505.**
- **Sound Blaster 16** Stereo Sound Card
- Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible
- A pairs of Stereo Speakers
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- High-quality Labtec Amplified Speaker System
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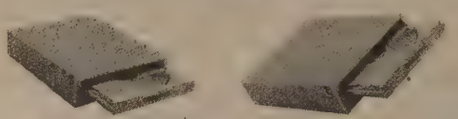
- NEC CDR-84 Internal SCSI CD-ROM (Multi-Session, 280ms)
- Media Vision **Pro Audio Studio 16** Stereo Sound Card
- Software bundled: Carmen San Diego, Compton's Encyclopedia, Lotus 1-2-3, King's Quest V, Nautilus CD, and MacroMind Action! CD

Multi-Media Systems Continued

Toshiba 3401 CD-ROM + Pro Audio Spectum 16 ..... $545.
- Toshiba 3401B Internal SCSI CD-ROM (300Kb/s, 200ms)
- Media Vision Pro Audio Spectrum 16 Stereo Sound Card
- A pair of Speakers

Media Resource Studio MPC Upgrade Kit ..... **$575.**
- Toshiba 3401B Internal SCSI CD-ROM (300Kb/s, 200ms)
- Media Vision Pro Audio Spectrum 16 Stereo Sound Card
- A pair of Stereo Sound Speakers & Microphones
- PowerTools by Softbit - 600 Titles

CD-ROMs



Mitsumi FX0001D Int. CD-ROM (Double Speed,250ms) .... **$235.**

NEC

NEC CDR-74-1 External SCSI CD-ROM (280ms) ..... **$450.**
NEC CDR-84-1 Internal SCSI CD-ROM (280ms) ..... **$425.**
NEC CDR-84-1 Int. SCSI CD-ROM (280ms OEM)..... **$365.**

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Panasonic CR-563 Int. CD-ROM (Double spin) ..... **$230.**
Panasonic CR-563 Int. CD-ROM (Double spin) w/Interface ... **$255.**

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SONY CDU-31A Internal CD-ROM w/Interface ..... **$195.**
SONY CDU-31A-03 Int. CD-ROM w/Interface (300k,300ms) .. **$235.**
SONY CDU-31A External CD-ROM w/Interface ..... **$295.**

TEXEL DM3028 Int. SCSI CD-ROM (235ms Access)..... **$395.**
TEXEL DM5028 Ext. SCSI CD-ROM (235ms Access) ..... **$485.**

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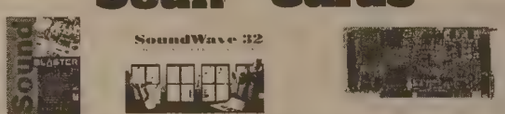
Toshiba 3401B Int. SCSI CD-ROM (300k, 200ms) ..... **$380.**
Toshiba 3401B Int. SCSI CD-ROM w/Interface ..... **$430.**
External SCSI Case for SCSI CD-ROM w/Cable ..... **$95.**

Soun Cards



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Creative Lab Sound Blaster Pro Deluxe ..... **$118.**
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Creative Lab Sound Blaster 16 SCSI ASP ..... **$225.**
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Creative Lab Video Spigot video capture card ..... **$355.**

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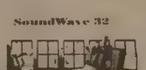
Media Vision Pro Audio Spectrum 16 Basic ..... **$149.**
Media Vision Pro Audio Spectrum 16 Sound Card ..... **$169.**
Media Vision Pro Audio Studio 16 Sound Card ..... **$229.**
Media Vision Pro Movie Spectrum Video Capture card ..... **$325.**

ORCHID



Orchid SoundWave 32 (Wavetable DSP w/Speakers) .. **$219.**

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Creative Labs CT-38 Amplified Stereo Speakers **$26.50**

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AM-22 Deluxe Microphone **$13.95**
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Busines & Economy Atlas (DOS) ..... **$29.**
Kodak Photo CD (MPC) ..... **$25.**
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Macromind Action (MPC) ..... **$36.**
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Microsoft Works (MPC) ..... **$50.**
Publish It 2.0 (DOS) ..... **$27.**
TEMPRA Access Photo CD Imaging Software (DOS) ..... **$24.**
Survey of Western Arts (MPC) ..... **$34.**
TIME Almanac - 1991 (DOS) ..... **$32.**
Time Table of History (DOS) ..... **$21.**
Toolworks Encyclopedia (MPC) ..... **$57.**
Toolworks Reference Library (DOS) . **$25.**
U.S. Atlas & Automap (DOS) ..... **$28.**
Atlas Pak - US / World Atlas (DOS) . **$23.**
U.S. Histroy (DOS) ..... **$28.**
USA Wars: Civil War (DOS) ..... **$46.**
USA Wars: Desert Storm (MPC) ..... **$28.**
USA Wars: Korea (DOS) ..... **$46.**
USA Wars: World Wae II (DOS) ..... **$46.**
USA Wars: Vietnam (DOS) ..... **$46.**
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Audubon's Birds (DOS) ..... **$31.**
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Dinosaur Adventure (MPC) ..... **$32.**
DTP Pro FM - Wave Clipart ..... **$26.**
Electronic Home Library (DOS) ..... **$30.**
Family Choice / Britannica (DOS) .... **$27.**
Family Doctor (DOS/MAC) ..... **$27.**
Family Education Collections (DOS) . **$28.**
Marketing Master 1992 (DOS) ..... **$28.**
Great Cities - Vol. 1 (DOS) ..... **$28.**
Great Cities - Vol. 2 (DOS) ..... **$28.**
Jets & Props - Aris (MPC) ..... **$28.**
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MacMillan Child Dictionary (MPC) ... **$34.**
Mavis Beacon TeachesTyping (MPC) **$27.**
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Renaissance Master II (MPC) ..... **$34.**
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Beauty & Beast (MPC) ..... **$22.**
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CD Storytime (DOS) ..... **$25.**
Chessmaster 3000 (MPC) ..... **$23.**
CIA World Fact Book (DOS) ..... **$27.**
Guinness Records 1993 (MPC) ..... **$30.**
Guinness Disc of Records (DOS) .... **$19.**
Interactive Storytime Vol 1 (DOS) .... **$27.**
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King's Quest V (DOS) ..... **$25.**
Loom from Lucas Film (DOS) ..... **$25.**
Mantis Experimental Fighter (DOS) .. **$22.**
Mario's Missing/DGeneration ..... **$33.**
Mario Mission/ World Atlas (DOS) .. **$30.**
Mayo Clinic Family Health (DOS) ..... **$24.**
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So Much Shareware II (DOS) ..... **$25.**
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Space Quest IV ..... **$25.**
Sport's Best (3 in 1) (DOS) ..... **$26.**
Stellar 7 (DOS) ..... **$25.**
Total Baseball (DOS) ..... **$25.**
Who Killed Sam Rupert (MPC) ..... **$34.**
Willie Beamish - The Adventure ..... **$25.**
Wing Commader/Ultima VI (DOS) ... **$25.**
Wizard ..... **$21.**

CD Pak for DOS ..... **$82.**
- 6 Titles: Multimedia Encyclopedia, The Animals!, Reference Library, US Atlas, World Altas, & The Secret of Monkey Island

CD Pak for Windows ..... **$82.**
- **6 Titles: Multimedia Encyclopedia, The Animals!, Chessmaster** 3000, US Atlas, World Atlas, & Beacon Teaches Typing 2.0

CD Pak for Home ..... **$64.**
- 5 Titles: Tempra Access Photo CD, The Animals!, US Atals, World Atlas, & Mayo Clinic

CD Pak for Entertainment ..... **$64.**
- 5 Titles: Mario is Missing, D/Generation, Chessmaster 3000, Wind Commander / Ultima VI, & The Secret of Monkey Island

CD Quartet 1 ..... **$38.**
- US Atlas, World Atlas, Chessmaster 3000, Mavis Beacon Teaches Typing

CD Quartet 2 ..... **$43.**
- US Atlas, World Atlas, Reference Library, US Histroy (DOS), ... **$28.**

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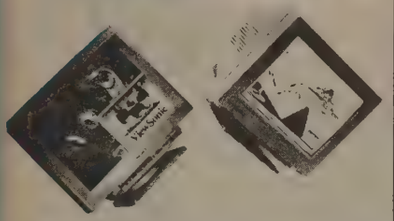
Monitors



AMDEK 432N 14" MonoVGA (Amber/White) ..... **$125.**

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5439A 14" SVGA (1024x768,.39dp) ..... **$222.**
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MITAC

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1564PD 15" Digital Screen (1280x1024,.28dp)... **$395.**

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900S 14" SuperVGA (1024x768,.28dp) ..... **$252.**
1000S 14" SVGA NI (1024x768,.28dp) ..... **$275.**
1500D 14" Digital NI (1024x768,.28dp) ..... **$357.**
2000DX 15" Digital NI (1280x1024,.28dp) ... **$375.**
4000DC 17" Digital NI (1280x1024,.28dp).. **$775.**

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CPD-1320 14" SVGA NI (640x480,.25dp) ..... **$357.**
CPD-1430 14" SVGA Multiscan NI (.25dp)..... **$597.**
CPD-1730 17" SVGA Multiscan NI (.25dp)... **$1043.**
CPD-2036S 20" SVGA Multiscan NI (.30dp) **$1995.**

ViewSonic®

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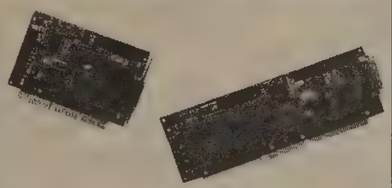
6E 14" SuperVGA NI (1024x768,.28dp) ..... **$296.**
5E 14" SVGA NI (1024x768,72Hz refresh) .... **$379.**
7 17" Digital Multi-Freq (1280x1024,.28dp) .. **$808.**
15E 15" Flat Screen (.28dp,76Hz refresh) ..... **$385.**
15 15" Digital Multi-Freq (.28dp,1280x1024) .... **$459.**
17 17" Digital Multi-Freq (.28dp,1600x1280) .... **$975.**
20 20" Digital Multi-Freq (.28dp,1600x1280) .. **$1655.**
21 21" Digital Multi-Freq (.28dp,1600x1280) .. **$1885.**

****** Please call for Hitachi, Mitsubishi, Radius, and many others.***

Video Cards



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AVGA-3 (CL GD5420) 1MB Accelerator (32K color) .. **$62.**
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Cirrus Logic GD5424 VLB Accelerator w/1MB .... **$88.**
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Paradise-1DW **Accelerator** w/1MB & (32K color) ... **$90.**
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Graphics Ultra+ VLB mach32 w/1MB Dram ..... **$249.**
Graphics Ultra+ (1280x1024, 2MB Dram) ..... **$249.**
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Graphics Ultra Pro EISA w/2MB VRAM ..... **$455.**
VLB mach32 Graphics Ultra Pro w/2MB VRam .... **$380.**

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SpeedStar Pro Graphics Accelerator w/1MB .... **$118.**
SpeedStar Pro VLB Accelerator w/1MB ..... **$118.**
Stealth-24 1MB Windows Accelerator (16M colors) . **$168.**
Stealth-24 VLB Windows Accelerator w/1MB ..... **$168.**
Stealth Pro Graphics Accelerator w/1MB VRam .. **$260.**
Stealth Pro VLB Accelerator w/1MB VRam ..... **$265.**
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Fahrenheit-VA **w/Voice Annotation** w/1Mb ..... **$185.**
Fahrenheit **VLB Windows Accelerator** w/1MB .. **$170.**
Celsius VLB Graphics Accelerator w/1MB ..... **$220.**
Celsius VLB Graphics Accelerator w/2MB ..... **$280.**

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Parallel (Printer) Card ..... **$10.**
AT Super IDE IO Adapter (Fdd/Hdd, 2S, 1P, 1G) ..... **$16.**
VESA Local Bus Super IDE & IO (2S,1P,1G) ..... **$30.**

BOCA I/O - 4 Serial & 2 Parallel ports ..... **$95.**

GSI-11V **2.88M** Four **(4)** Floppy Controller & Cable **$55.**
GSI-18V **Co-resident IDE** Controller ..... **$42.**
GSI-21V **2.88M** Four **(4)** Fdd & IDE Adapter ..... **$62.**

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DC-200 ISA IDE Caching (OK, upto 16MB) ..... **$100.**
DC-2040 ISA SCSI Caching (OK, upto 16MB) ..... **$265.**
DC-4030VL VLB IDE Caching (OK, upto 16MB) ..... **$145.**
DC-420 VLB IDE Caching (512K, upto 1MB)..... **$150.**

Tekram DC-600B ISA IDE Caching (up to 16MB) ... **$110.**
Tekram DC-680 VLB IDE Caching (up to 16MB) .... **$145.**

Bus Logic KT445S VLB SCSI Controller Kit ..... **$275.**
Bus Logic KT542B ISA SCSI Controller Kit ..... **$225.**
Bus Logic KT545S ISA FAST SCSI-2 Kit ..... **$235.**
Bus Logic KT747S EISA FAST SCSI-2 Kit ..... **$355.**

DTC-2290 **EISA** IDE Floppy/Hard Disk ..... **$118.**
DTC-3270VL VLB SCSI-2 Controller ..... **$130.**
DTC-3290 **EISA** SCSI **Caching** FD/HD (OK,to 4MB) . **$435.**
DTC-3292 **EISA** SCSI FD/HD Controller ..... **$325.**

Controllers Continued

UltraStor 14FA SCSI FD/HD Controller ..... **$210.**
UltraStor 14FA SCSI FD/HD Controller Kit ..... **$250.**
UltraStor 24F **EISA** SCSI FD/HD Controller ..... **$370.**
UltraStor 24F **EISA** SCSI FD/HD Controller Kit .. **$410.**
UltraStor 34F **VESA Local Bus** SCSI FD/HD ..... **$285.**
UltraStor 34F **VESA Local Bus** SCSI FD/HD Kit ... **$325.**

Future Domain 1680SVP 16-bit SCSI Fdd/Hdd Kit **$145.**

Always IN-2000 16-bit SCSI Host (Novell Certified) . **$189.**
Always AL-1000 Parallel to SCSI Adapter ..... **$168.**

Adaptec

AHA-1522K SCSI Adapter Kit ..... **$153.**
AHA-1542C SCSI Bus Mastering (Card only) .... **$205.**
AHA-1542CK SCSI Bus Master Host Adapter Kit .... **$257.**
AHA-1542CK + SCSI Bus Master Host Adapter Kit . **$320.**
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AHA-2842AK **VLB** SCSI Bus Master Kit ..... **$305.**

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TEAC 1.44MB FDD (3.5") w/Mounting Kit ..... **$45.**
TEAC 2-in-1 1.2/1.44MB FDD ..... **$118.**
TEAC 2.88MB FDD (3.5") w/Mounting Kit ..... **$87.**
Toshiba 1.2MB FDD (5.25") ..... **$52.**
Toshiba 1.44MB FDD (3.5") w/Mounting Kit ..... **$43.**
Toshiba 2.88MB FDD (3.5") w/Mounting Kit ..... **$73.**
IOmega Floptical Drive w/SCSI Interface (21MB) ... **$429.**
IOmega Floptical Disk (21MB) ..... **$27.**
Sysgen ValueStor Floptical Drive w/Kit ..... **$332.**
Sysgen ValueStor Floptical Disk - Dual pak ..... **$52.**

CONNER

The Storage Answer.

CP-30170E 170MB SCSI HDD (17ms) ..... **$215.**
CP-30204 212MB IDE HDD (12ms,256K cache) .. **$225.**
CP-30254 250MB IDE HDD (14ms,64K cache) ... **$245.**
CP-30344 340MB IDE HDD (14ms) ..... **$280.**
CP-30544 520MB IDE HDD (12ms,256K cache) .. **$530.**
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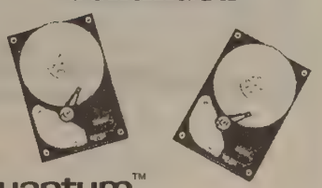

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HOLIDAY Gift Guide

Continued from page 128

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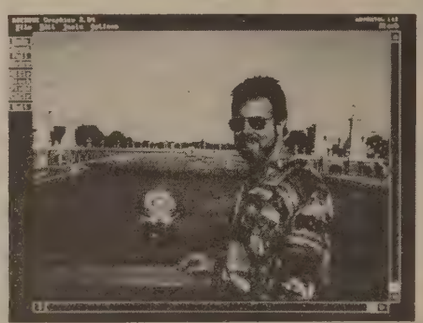
Destination Europe lists more than eighty-four hundred cities and 250,000 miles of motorways and autoroutes from Spain to Denmark to Russia. The detailed color maps help drivers determine the quickest, shortest, or most scenic route, also providing seasonal weather information and a comprehensive listing of addresses and phone numbers of hotels in major cities. Destination Europe requires an existing copy of Automap Road Atlas v3.0 on hard disk. ($49.95) Automap Inc., 1309 114th Ave., SE, Suite 110, Bellevue, WA 98004-6999. (206)455-3552.



Clockwise from right: Hotshot Graphics 2.0 from Symsoft Corp.; HSC Software's Digital Morph; The Home Survival Toolkit multimedia software program; Expert Landscape for Windows

PLACES RATED ALMANAC

Based on the *Places Rated Almanac* book, this software is an indispensable resource for persons who want to find the best places in North America to live, work, vacation, or retire. It ranks the overall livability of 343 metropolitan areas based on ten factors: cost of living, jobs, housing, transportation, education, crime, the arts, health care, recreation, and climate. With the software, users can explore and manipulate the data far beyond the limits of the book. Special point-of-view logic allows users to control how the data is weighted so that places are ranked to accommodate their personal point-of-view, rather than the book's existing hierarchy. (Book/disk package, $34.95) Paramount Publishing Newmedia, 1230 Avenue of the Americas, New York, NY 10020. (212)698-7671.

HOME SURVIVAL TOOLKIT

The Home Survival Toolkit is a Windows-based, "how-to" multimedia software program that contains information crucial to every home dweller. It offers tips, techniques, and colorful animations that explain how to fix electrical and plumbing problems, prevent common emergencies, use a variety of tools, and more. If your problem is beyond the scope of do-it-yourself techniques, the "Working with a Pro" chapter analyzes when and how to hire a contractor, alerts users to signs of fraud, and includes a sample construction agreement. The program also features an extensive database of toll-free numbers for companies offering everything from catalogs and detailed product literature to technical advice. ($35) Books That Work, Inc., 285 Hamilton, Suite 260. Palo Alto, CA 94301. 1-800-242-4546.

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HealthSoft licensed the best-selling *The New American Medical Dictionary and Health Manual* by Dr. Robert Rothenberg and *The New American Encyclopedia of Children's Health* written by a panel of trusted pediatricians from Penguin Books USA. This electronic version integrates these three print health references into one easy-to-use, interactive Windows software package. The program includes a powerful search feature so users can locate information more rapidly. It allows users to find words and definitions even if the user cannot spell the word or does not know the terminology. It contains definitions for almost ten thousand med-

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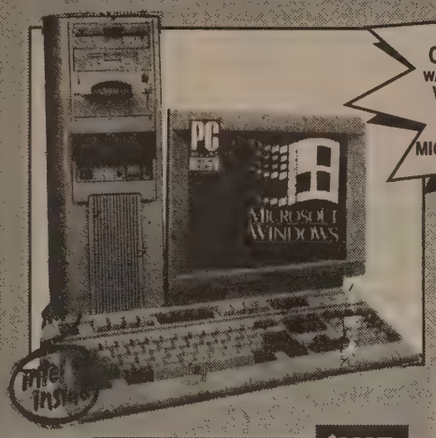

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HOLIDAY Gift Guide

ical terms, in addition to health information on poisons, antidotes, disease incubation periods, test results, current medical practices, and a Medicare Handbook. The children's section of the guide is an A–Z compendium of childhood diseases and symptoms. ($59) Great Bear Technology, Inc., 1100 Moraga Way, Moraga, CA 84556. 1-800-795-HEALTH.

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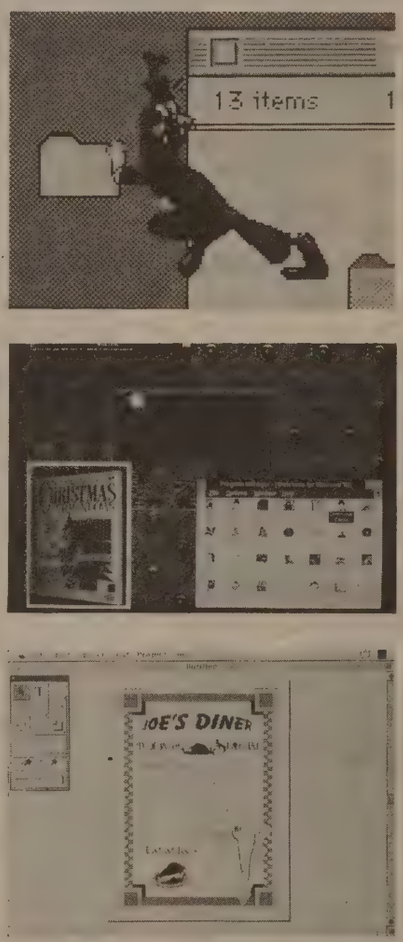
HOTSHOT GRAPHICS 2.0

Hotshot Graphics 2.0 is a graphics utility which simplifies the task of preparing digital images for printing. It captures SVGA/VESA screens up to 1280 x 1024 and 256 colors; enhances scanned or downloaded images as large as available memory and up to 24-bit color and 256-level gray; and prints in both color and black-and-white at publishing quality. A DOS application, Hotshot Graphics can also run under Windows. ($249) Symsoft Corp., PO Box 10005, Incline Village, NV 89450. (702)832-4300.

SMARTSYNC

SmartSync will update or synchronize files across multiple computers with a single mouse click instead of complicated scripting or macros. In addition, SmartSync reduces the cost and time of data transmission by sending only the changes made to files, rather than transferring and overwriting entire files. Using standard or cellular modems, serial or port cables, even diskettes, SmartSync allows users to schedule file updates. It prevents the loss of important data by alerting users when the same file has been updated on multiple PCs. SmartSync requires at least an IBM 386



Top: The Disney Collection Screen Saver from Berkeley Systems, Inc.; Christmas for Macintosh from TDA Help!; The Print Shop Deluxe from Broderbund Software, Inc.

or compatible computer running Windows 3.1 in enhanced mode. ($169.95) Nomadic Systems, Inc., 650 Castro St., Suite 410, Mountain View, CA 94041. (415)335-4310.

MACINTOSH SOFTWARE

THE PRINT SHOP DELUXE

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THE DISNEY COLLECTION SCREEN SAVER

Berkeley Systems, who brought you Flying Toaster and Star Trek screen savers, now offers some of Disney's most popular animated characters, including Mickey, Donald, Goofy, Pinocchio, The Little Mermaid, and others. It features over fifteen colorful animated displays, classic Disney voices and animations, as well as screen-locking password protection, and can run all After Dark 2.0 displays. For the Macintosh, the Disney Collection requires a Mac Plus or better, 2MB of RAM with a hard drive, running System 6.0.4 or higher. A Windows version is also available. ($49.95) Berkeley Systems, Inc., 2095 Rose St., Berkeley, CA 94709. (510)540-5535.

ICON GALLERY

Icon Gallery lets Macintosh users decorate their desktop by replacing the standard desktop icons with one of the largest commercial collections of tiny hand-crafted color illustrations. Users can browse through Icon Gallery's folders labeled People, Romance, Faces, Transportation, Logos, Signs, Plants and Flowers, Weapons, and more. Icon Gallery icons can be installed on desktop documents, applications, desk accessories, fonts, drives, and more. They can be pasted into the editing window of any application that supports PICTs. Icon Gallery icons also appear clearly on grayscale monitors. ($59.95) Component Software Industries Corp., PO Box 201, Rocky Hill, NJ 08553. (609)497-4501.

CHRISTMAS FOR MACINTOSH

Christmas for Windows and Christmas for Macintosh software packages feature

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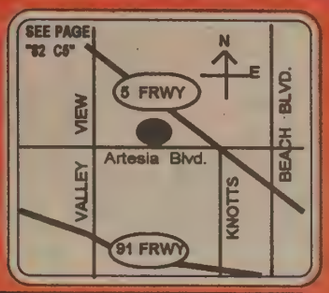

K-NET 486DX ISA Deluxe System

* 486DX CPU
* Internal i487 Math Coprocessor
* Heat-Sink w/ Fan for 50MHhz/66Mhz
* 4 MB Memory Exp. to 32MB
* 256 K Fast Cache Memory
* 170MB Hard Drive
* TEAC 1.2 & 1.44 MB Floppy Drive
* Deluxe Mini Tower or Desktop Case w/ PS
* Graphic Accelerator Card w/ 1MB RAM
* Super VGA Monitor,.28 Dot Pitch,1024x768, Edge to Edge
* IDE Floppy / Hard Disk Controller Card
* 2 Serial / 1Parallel / 1Game Port
* 101 Enhanced Keyboard

486DX-33Mhz $1168

486DX-50Mhz Add$165

486DX2-66Mhz Add$255

Holiday Best Buy

K-NET 486DX 32 Bit VESA Local Bus System

486DX/486DX2 CPU
* 4 MB Memory Exp. to 32MB
* Heat-Sink w/ Fan fo 66Mhz * Internal i487 Math Coprocessor
* Pentium Overdrive Ready
* 256K Fast Cache Memory
* 170 MB IDE Hard Drive
* TEAC 1.2 & 1.44 MB Floppy Drive
* 32 Bit VESA Local Bus IDE Controller Card
* 32 Bit VESA Local Bus Accelerator Video Card w/ 1MB
(16.7M True Color Display & Resolution up to 1280x1024)
* Deluxe Middle Tower Case w/Power supply
* Non-Interlaced SuperVGA Monitor .28dp, 1024x768
* 2 Serial / 1 Parallel / 1 Game Port * 101 Enhanced Keyboard

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* 250MB IDE Hard Disk +$45
* 345MB IDE Hard Disk +$115
* 545MB IDE Hard Disk +$375
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* 15" Flat screen, Non-Interlaced Super VGA Monitor 1280x1024,70Hz,.28dp.....+$120
* 17" Flat screen, Non-Interlaced Super VGA Monitor 1280x1024,72Hz,.26dp.....+$560
* Diamond Stealth 24 Vesa LB Video Card w/1MB +$65
* Diamond Viper Vesa LB Video Card w/2MB +$295
* Orchid Fahrenheit Vesa LB Video Card w/1MB +$79

K-NET 386DX-40Mhz 128K Cache System

* 386DX-40Mhz CPU
* 4MB Memory Exp.32MB
* 128K Fast Cache Memory
* 120MB Hard Drive
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* Deluxe Mini Tower or Desktop Case
* Graphic Accelerator Card w/ 1MB RAM
* Super VGA Monitor (1024x768, Edge to Edge)
* Floppy / Hard DIsk Controller
* 2 Serial / 1 Parallel / 1 Game Port
* 101 Enhanced Keyboard

Best for Student!!

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* AMD 486DX-40Mhz CPU
* 4 MB Memory
* 256 K Fast Cache Memory
* Built-In Math Co-processor
* 170MB Hard Drive
* TEAC 1.2 & 1.44 MB Floppy Drive
* Deluxe Mini Tower or Desktop Case
* Graphic Accelerator Card w/ 1MB RAM
* Super VGA Monitor,.28dp (1024x768, Edge to Edge)
* Floppy / Hard Disk Controller
* 2 Serial / 1Par. /1Game Port * 101 Enhanced Keyboard
* Upgrade to VESA Local Bus...ADD$45

$1158

K-NET 486DX EISA VESA Local Bus System

* 486DX/486DX2 CPU
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* Internal i487 Math Coprocessor
* Heat Sink w/Fan for DX2/66
* 256K Fast Cache Memory
* 250MB IDE Hard Drive
* 101 Enhanced Keyboard
* Deluxe Middle Tower Case w/Power Supply
* 32 Bit VESA LB Accelerator Card w/ 1MB
(16.7M Color & Resolution up to 1280x1024)
* 32 Bit VESA Local Bus IDE Controller
* 15" FLAT Screen Non-Interlaced .28dp SuperVGA Monitor ,1280x1024, 70Hz
* TEAC 1.2 & 1.44 MB Floppy Drive
* 2 Serial / 1 Parallel / 1 Games port

486DX-33Mhz.....$1598

486DX2-66Mhz.....$1798

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Ho, Ho, Ho! Happy Holidays !!

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HP DeskJet 500/500c/550c.....$ Call for
HP LaserJet 4L / 4LM/ IIIP.....$ Best
HP LaserJet 4/ 4M.....$ Price
CANON Bubble Jet 10ex.....$ 245
CANON Bubble Jet 200.....$ 329
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NetWare V4.0 10 User.....$2090.00
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BNC Terinator.....$3.00
T-Connector.....$2.00

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15" (MX15F),1280x1024,72hz,.28...$535
17" (MX17F),1280x1024,72hz,.28...$965

Shamrock Monitor:
14" (1451),1024x768,SVGA .39dp...$205
14" (1451),1024x768,SVGA .28dp...$235
14" 1024x768,Non-Interlaced,.28dp.$265
14" N-I VESA Std.1280x1024,.28....$290
15" N-I Flat Screen,1280x1024,.28...$395

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Colorado 120MB Tape Backup.....$175
Colorado 250MB Tape Backup.....$195
120/250MB Tape Cartridge.....$18
2400 Internal Modem.....$30

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(w/ Windows Software)
96/24 Send/Rec. Fax Modem(w/Voice Mail).$85
14.4/14.4 Send/Rec. Fax Modem....$165
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VESA Local Bus IDE Controller....$45
VLB IDE Cache Ctrl.w/0K Exp.16MB.$185
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Mid.Tower Case w/230W power supply.$70
Mid.Tower Case w/ Door&250W PS..$85
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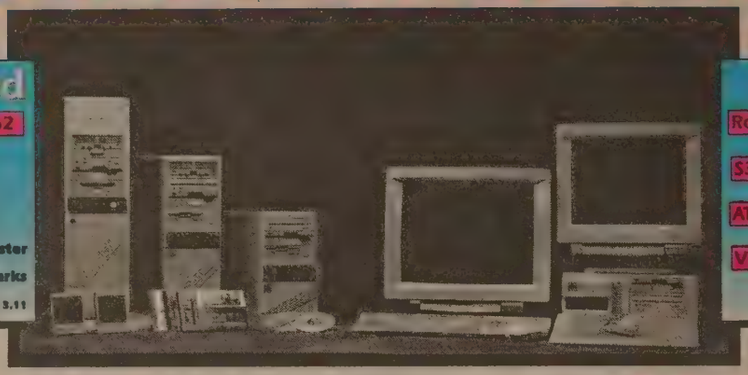

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- Free Hi-Res 1450 DPI Mouse

$5040

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  (50x Faster Than Standard Controller)
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- 2 Serial, 1 Parallel & 1 Game Port
- Enhanced 101 Keyboard
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- Free Hi Res 1450 DPI Mouse

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- Enhanced 101 Keyboard
- Desktop or 5 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse
- 3 VLB Slots, Overdrive Pemtium Ready

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  16MB RAM
- **Multimedia SCSI Toshiba CD ROM, Multi-spin, Multi-section, Kodak Photo CD-Ready Pro Audio 16 Bit, Sound Card, Mini Speakers, 7 CD Titles**
- 1.2 MB & 1.44 MB Floppy Drive
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- 2 Serial, 1 Parallel, & 1 Game Port
- Programmable 130 Key Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse
- 8 EISA, 2 VLB Slots, Overdrive Pentium Ready

486/66 MHz DX2	$2270
486/33 MHz	$2090
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- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse
- 3 EISA, 2 VLB Slots, Overdrive Pentium Ready

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Orchid Celsius 1MB VRAM	Add $105
Orchid Celsius 2MB VRAM	Add $150

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- 128K Cache
  8 MB RAM
- 1.2 MB & 1.44 MB Floppy Drive
- 340 MB 12 MS SCSI Hard Drive
- **Super Fast VL Bus SCSI II Controller**
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- Focus 9000 130 Key Programmable Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse
- 8 EISA, 2 VLB Slots, Overdrive Pentium Ready

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EISA 486 50MHz DX w/64K & CPU	590
EISA 486 66MHz DX2 w/64K & CPU	650
IBM SLC 66MHz w/CPU & Math Co.	295
IBM SLC 66MHz 3-VLB w/256K & CPU & Math Co.	420
ISA 386 40MHz SX w/CPU	85
ISA 386 40MHz w/64K & CPU	130
ISA 486 25MHz SX w/CPU	180
ISA 486 33MHz SX w/CPU	195
ISA 486 33MHz w/64K & CPU	375
ISA 486 50MHz DX2 w/64K & CPU	445
ISA 486 50MHz DX 64K & CPU	525
ISA 486 66MHz DX2 w/64K & CPU	585
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ZIF VLB 50MHz DX2 w/128K Cache & CPU	460
ZIF VLB 66MHz DX2 w/128K Cache & CPU	598
Upgrade ZIF EISA VLB w/256K	
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Diamond Stealth 24 ISA 1MB S3-801	160
Diamond Stealth 24 VLB 1MB S3-805	160
Diamond Stealth Pro VLB 1MB VRAM	240
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MGP	13
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Adaptec 2742 AK EISA SCSI	370
Alpha Research VLB IDE Caching	165
Alpha Research EISA SCSI II	245
Alpha Research EISA SCSI II Exp to 16MB	360
DTC 2290 EISA IDE	105
DTC 3292 EISA SCSI	245
DTC 3290 EISA SCSI II Exp to 4MB	360
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IDE 2.88 MB 4FD/2HD	**75**
Orchid VLB Controller	55
Ultrastor 15C IDE Cache Controller	180
Ultrastor 24F EISA SCSI	360
Ultrastor 34F VESA LB SCSI	275
Vesa Local Bus Controller w/ I/O	**35**
VESA LB for 50MHz	45
XT/AT 2FD	25

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CTX 5468 14" 1024 x 768 .28	250
CTX 5468 NI 14" 1024 x 768 NI	270
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CTX 1561/1561LR 15" 1024 x 768	360/370
CTX 1760F/1760LR 17" 1024 x 768	775/785
KFC 15" Digital Monitor 1280x1024	390
KFC 17" (1280x1024)	765
Mag 1564 15"	365
Mag 15F 15"	480
Mag 17F 17"	875
NEC 3FGE 15"	620
NEC 4FGE 15"	725
NEC 5FGE 17"	1120
NEC 6FG 20"	2320
Sony CDD 1430 14" NI	590
Sony CDD 1730 17"	1040
Sony GDM 2036 20"	1990
View Sonic 5E 14"	355
View Sonic 6E 14"	280
View Sonic 7 17"	825
View Sonic 15 76Hz .28	445
View Sonic 17 76Hz .28	1005
View Sonic 20" 76Hz .28	1635
View Sonic 21 .26	1885

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Focus 9000 Programmable	55
Fujitsu 101K 4700	45
Keytronic 101 Key	35
Lite On/Mitsumi 101 Key	30
Northgate 101 Key	55
Northgate 102 Key	75
Northgate Omni Ultra 130 Key	95

ETHERNET CARDS

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Panasonic CR-532 Int. SCSI 290ms	305
Panasonic CR-562B Int. D-Spin 290ms	285
Sony 31A Int./Ext. AT Bus w/Int. Card 490ms	155/290
Sony 31A-03 w/Int. Card 390ms	205
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Logitech Serial/Bus Trackman	78/88
Logitech Scanman	175
Microsoft Serial/Bus Mouse	50/65
Royal 3 Button Mouse 1450 DPI	CALL
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Trakker 250 Ext.	350

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Multimedia Encyclopedia	48
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Sound Blaster 16	160
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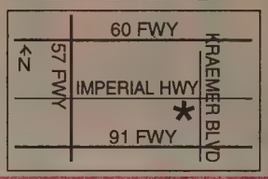

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- Enterprise III Motherboard
- Intel CPU 486DX-33/486DX2-66
- Pentium P24T Support-ZIF socket
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- 4MB RAM exp. to 256MB
- TEAC 1.2MB & 1.44MB FD
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- 4MB RAM exp. to 256MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- CPU Cooling Fan
- Full burn-in
- 1 year parts & labor warranty

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- SuperVoyager II Motherboard
  - Intel CPU 486DX-33/486DX2-66
  - Pentium P24T Support-ZIF socket
  - Built in IDE I/O 2S/1P
  - 256K Static RAM cache
- 4MB RAM exp. to 64MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- CPU Cooling Fan
- Full burn-in
- 1 year parts & labor warranty

$1195 SuperVoyager II - 33

$1395 SuperVoyager II - 66

SPECIAL BABY EISA 486-33/66MHz 256K

- Baby EISA Motherboard
- Intel CPU 486DX-33/486DX2-66
- 256K Static RAM cache
- 4MB RAM exp. to 32MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- CPU Cooling Fan
- Full burn-in
- 1 year parts & labor warranty

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• In the January issue of PC Sources, the four top ranked systems all used the SuperVoyager motherboard from American Megatrends.

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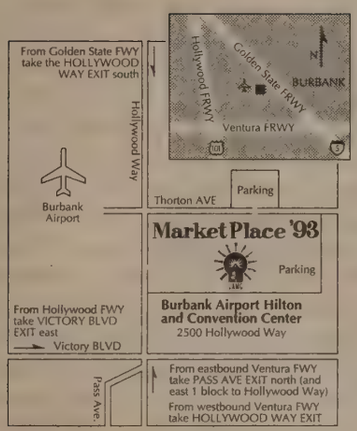
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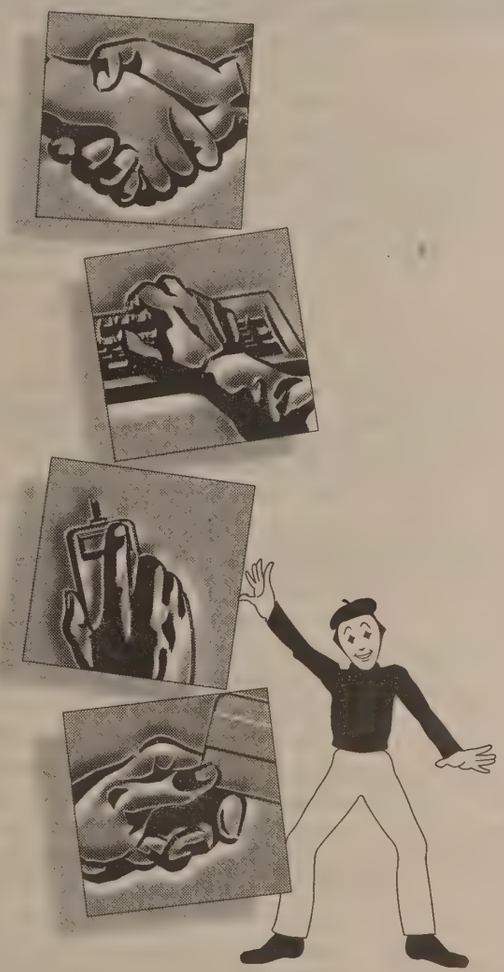

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I work on a Mac primarily: ☐ At Home ☐ At Work

MicroTimes 11/93

Continued from page 138

screen savers with winter scenes, elves, and new year celebrations, and plays continuous carols using a sound card or internal PC speaker. Users can replace their regular window's icons with festive holiday icons that play a short clip of music while the software is loading. Christmas for Windows includes three Christmas games, six holiday wallpapers, and two holiday fonts. Users can send an electronic Christmas greeting card, which consists of the winter scene screen saver and a customized message, to a friend or coworker. ($14.95) TDA Help!, 720 132nd St. SW, Suite 202, Everett, WA 98204. (206)742-4145.

ALDUS GALLERY EFFECTS: CLASSIC ART, V3

Aldus Gallery Effects: Classic Art, Volume 3 offers a well-balanced collection of filters that automatically transform scanned photographs and other bitmapped images into dramatic artwork. Volume 3 showcases several classic painting and drawing methods: the Sumi-é effect replicates an ancient Japanese brush-painting technique; Ink Outlines is a fast, scribbled drawing style. Each effect can be applied singly or in concert with other effects. Plus all effects will be available as plug-in filters that users can apply either from within the accompanying Gallery Effects 1.5 application or can be integrated into a host program, such as Aldus PhotoStyler, Adobe Photoshop, Fractal Design Printer, and others. Gallery Effects is available for both Macintosh and Windows computers. ($199) Aldus Corp., Consumer Division, 5120 Shoreham Place, San Diego, CA 92122. (619)558-6000.

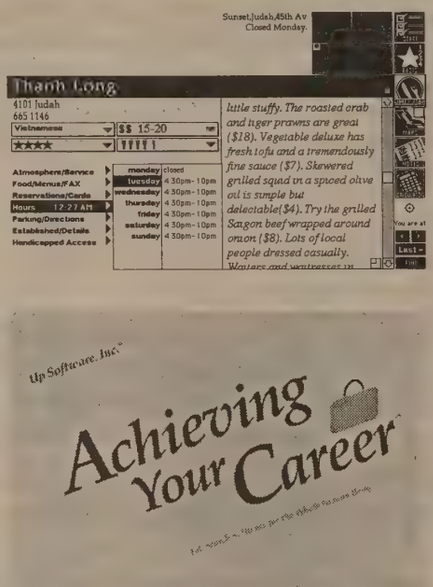
REVIEWS

MACINTOSH SOFTWARE REVIEWS

ACHIEVING YOUR CAREER: JOB SEARCH SOFTWARE FOR THE WHOLE HUMAN BEING

Designed By: Jim Hurd
Published By: Up Software
For: Macintosh (2MB RAM, 2.5MB with System 7; requires HyperCard or HyperCard reader)
List Price: $99

The implosion of white-collar jobs in the American economy means that growing hordes of highly skilled computer users find themselves out of work. Even this social mushroom cloud has a silver lining: there is now a booming market for job search software. Achieving Your Career is a



Top: Screen shot from Dining Digitally in San Francisco; Bottom: Achieving Your Career from Up Software

comprehensive package designed to support any Mac user who is seeking employment in a business, technical, or professional career.

The software is a professionally crafted and neatly interlinked set of HyperCard stacks, totaling about 5MB of hard disk space after installation. About 1MB of this is sound, which is optional. The use of multiple windows and floating control palettes is very stylish, but it might be confusing to a beginner, and it tends to crowd the screen of a compact Mac. There is an indexed 16-page user manual that explains the program's features.

There are four main components to Achieving Your Career.

The first is a collection of sample resumes and letters, with detailed notes and explanations. These can be copied into any word processor for editing and formatting. They cover typical jobs in marketing, accounting, sales, data processing, editing, health care, technical writing, and administration. There is a list of action verbs that personnel managers like to read on a resume.

The second component includes a database of five hundred major corporations, a contact tracking utility, a calendar with daily, weekly and annual scheduling, and a tutorial on how to research job opportunities. The database can be searched by industry category or telephone area code, and it is pretty much useless since these top five hundred corporations are precisely the ones that are enthusiastically laying off workers these days. You can, however, add your own listings to the database.

The third component is a set of interactive role-playing simulations using digitized sound. The interview exercise includes the twenty worst questions commonly asked in job interviews. The negotiation exercise lets you practice the delicate art of asking for more money. The telephone exercise lets you practice fighting your way through thickets of receptionists, secretaries, and voice mail systems to reach the beleaguered manager with hiring authority. With appropriate hardware, you can record your own replies to evaluate your performance.

The fourth component is a collection of exercises for evaluating yourself, evaluating companies, and recording your experiences. There is also an Encouragement Nook, a charming drawing of a cozy living room where you can soothe those nerves frazzled by frustrating days of rejection. (Up Software, Inc., 722 Lombard St., #204, San Francisco, CA 94133. 415/921-4691 or 921-0939)

DINING DIGITALLY IN SAN FRANCISCO

Published By: Digital Lantern
List Price: $59.95, with quarterly updates available for $18.95
Reviewed By: Chris Okon

With over thirty-one hundred restaurants, San Francisco is a city where dining is sport. If you've ever "felt like Italian food," wondered what kind of restaurants are near Moscone Center, or wanted to capture impressions about your favorite restaurant,

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the Digital Lantern's Digital Restaurant Guide to San Francisco is for you.

Designed in HyperCard for Apple PowerBooks and other big screen Macintoshes, the DRG lists all thirty-one hundred-plus restaurants and provides an interactive travel experience that includes maps, sounds, and images of San Francisco's culturally diverse neighborhood restaurants. You can search for a restaurant by name, cuisine, or neighborhood, with each entry offering basic information such as address, phone, hours, handicapped access, payment method, and quality ratings for food, atmosphere, service. Restaurant reviews are provided by members of the Precision Dining Association (PDA) of San Francisco, a group of avid diners/PowerBook owners who meet periodically at different restaurants.

Special touches include map markers that light up to show which restaurants are open, voices of waitstaff who pronounce names of exotic dishes or a simple note that states a restaurant is "Open for another two hours and 19 minutes." Best of all, you can customize the DRG to reflect your own "bests" lists, change restaurant information or add new locations.

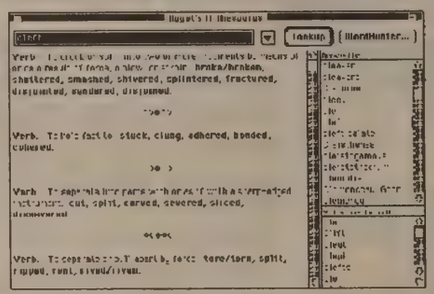
The DRG comes on three floppies and requires 8.5MB disk space. (Digital Lantern, Inc., 972 Chenery St., San Francisco, CA 94131. 415/337-6410)

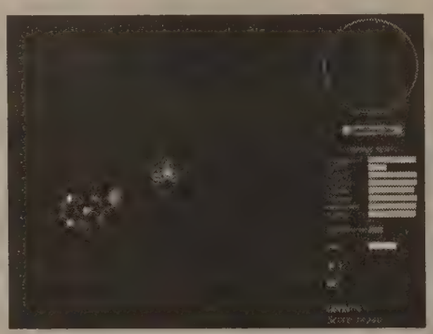
DELUXE AMERICAN HERITAGE DICTIONARY, THIRD EDITION

Published By: Star Press
For: Any Macintosh with 1MB RAM (2MB for System 7), hard disk with 14MB free space, System 6.0.2 or later. Windows and DOS versions also available.
List Price: $49.99
Reviewed By: Kevin M. Savetz

There are those of you who only use dictionaries to check the spelling of a word or find a quick definition. You already have the right words, but maybe you aren't sure how to use or spell them. Meanwhile, the rest of us are sitting miserably thinking, "What's the word for those big, puffy clouds?" The Deluxe American Heritage Dictionary v3 is dictionary software for all of us, combining complete dictionary features with some unexpected—and welcome—tools. The most notable feature is Word Hunter, a function to search definitions of words—to find the one that means exactly what you want to say. For instance, enter "measure and depth and water" and you'll see a list of words whose definitions contain each of those words (such as hydrometer, echo sounder and depth finder.) Then, click on one of the choices for a full definition.

Version 3 includes all the basic dictionary fare, including full definitions and pronunciation guides for each of its two hundred thousand words, hyphenation





Top: Deluxe American Heritage Dictionary from Star Press; Bottom: High Risk Ventures' Space Madness

rules, sample sentences, and word history. Roget's thesaurus is part of the package, providing hypertext links to synonyms, antonyms, and related words.

The software shows its power over its bound counterpart with the ability to search for words using "wildcards" (for instance, finding all the seven-letter words ending in "ent".) Puzzle-lovers will find joy in the ability to find anagrams for any word.

The American Heritage Dictionary works well as a standalone dictionary, but it won't spellcheck your word processing documents. It can also be slow, especially when using the WordHunter or searching with wildcards. (You can expect to wait about thirty seconds to complete a complicated search.) Its final drawback is its enormous size. It is a hard disk hog: the Macintosh version weighs in at 14MB. If you can handle the storage space, the American Heritage Dictionary on your computer will stop your tireless search for the whatchacallit. (Star Press, Inc., a division of WordStar International, Inc., 207 Alameda del Prado, PO Box 6113, Novato, CA 94948)

SPACE MADNESS

Published By: High Risk Ventures
For: Macintosh with 68020 CPU or better, 2.5MB RAM, 2MB hard disk space, 256-colors, system 6.0.7 or later.
List Price: $30
Reviewed By: Kevin M. Savetz

Space Madness is Asteroids on steroids. At first glance, it seems to be a basic mindless fly-through-space-destroying-the-nasties kind of game, but it is filled with goodies that will keep you coming back for further abuse. Detailed 256-color graphics, humorous sounds, and uncomplicated play make Space Madness a winner.

On each level, you must find and destroy the enemy base, then race through a vortex to the next level. The first few levels are relatively simple, offering few impediments between you and the enemy base. Level ten or so is where things change. A variety of vicious baddies (space tanks, mines, wubbly blobs, and so on) impede your goal. To make it a fair fight, there are plenty of enhancements along the way, such as extra torpedoes, automatic shield gadgets, and fuel.

Your space ship is equipped with the usual collection of goodies—pellets (your basic outer space B.B. gun), plasma torpedoes (the heavy guns), fuel, shields, a guidance system, and a scanner. Should a wayward enemy shot pummel your ship, woe to you if your torpedoes system fails—or worse, if your viewscreen goes out. That's right: each of the ship's systems can become damaged or go offline in the midst of combat. One hit on the viewscreen system will make objects appear fuzzy. Get hit again, and you might as well play with your eyes closed. A series of bar graphs at the side of the screen lets you know how each system is holding up. Systems are repaired automatically given enough time.

Continued...

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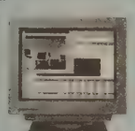

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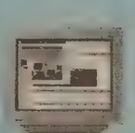

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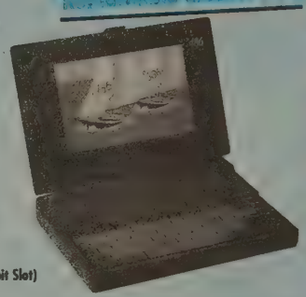

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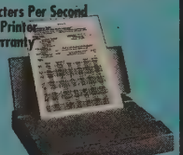

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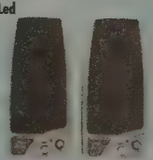

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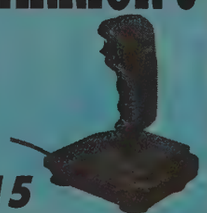

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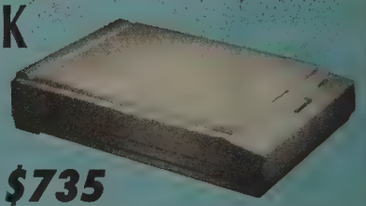

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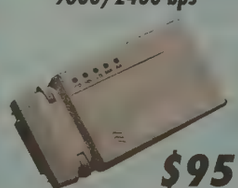

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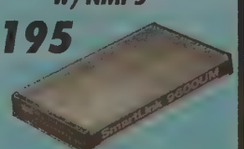

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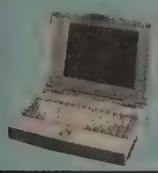

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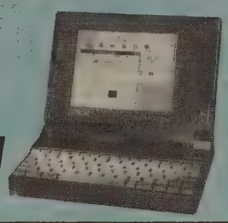

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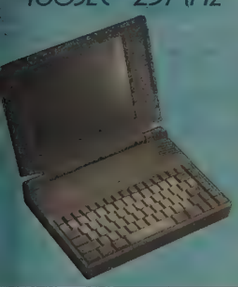

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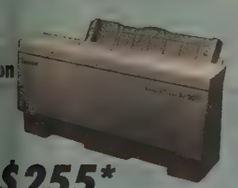

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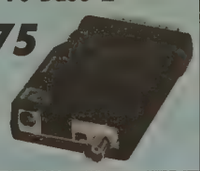

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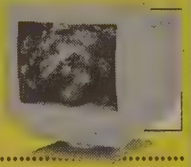

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The game includes other good effects. Objects affect the things around them: sweep close to a piece of floating rock without touching it, and it will veer around your ship, affected by your gravitational field. If you're too close to the enemy base when it explodes, you'll find yourself spinning backwards through space, out of control.

Experienced players may become bored with the first few easy levels, but the game has a quasi-hidden button for starting at any level. Some games penalize you for using a start-anywhere function, but Space Madness gives you extra points for it. Nice touch. My only complaint is that on levels with many objects (over twenty) game play is noticeably slower. As you turn enemies into space dust, things speed up again.

Space Madness is High Risk Ventures' first commercial product. They plan to add more goodies to the game. Updates will be made available to current owners of the game. (High Risk Ventures, PO Box 70690, Eugene, OR 97401)

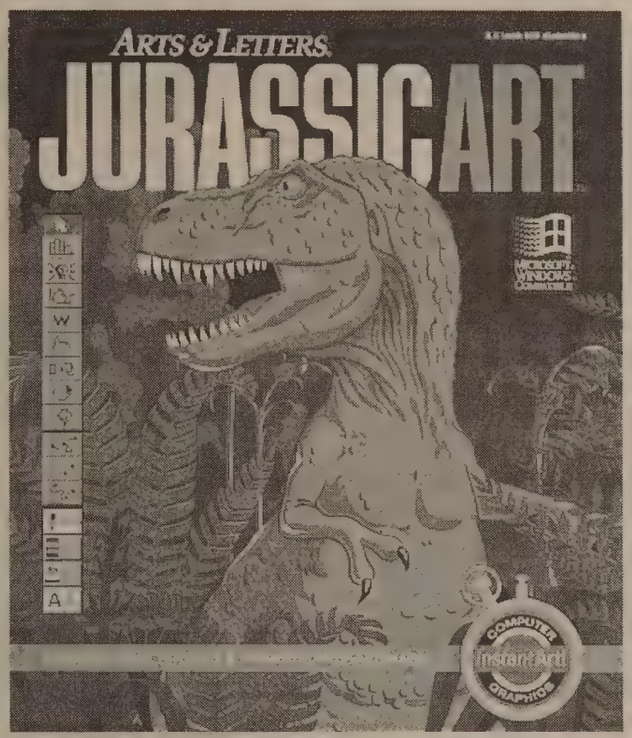
MULTIMEDIA SOFTWARE REVIEWS

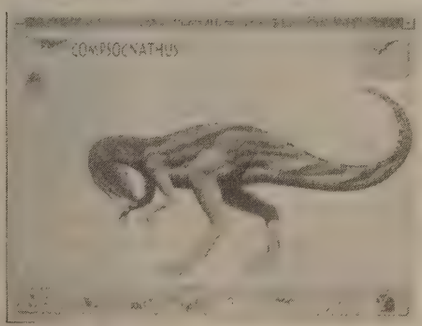
DINOSAURS CD-ROM DATABASE

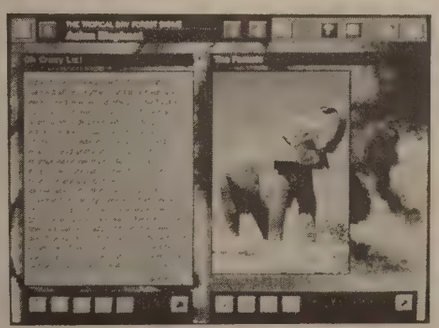
Published By: Microsoft
List Price: $79.95
Reviewed By: Woody Liswood

Dinosaurs is a fun way to view, hear, and watch these prehistoric creatures as they wander, hunt, fly, swim, and eat their way through the flora and fauna of their era. There are over one thousand illustrations and photographs of more than eighty dinosaurs to help you discover where and when they existed, what they ate, and who we think their relatives were.

Dinosaurs installs as a normal Windows program. Almost every part of the screen comes alive. As you move your cursor, for instance, it may change from the pointer to a hand. When the hand appears, click the mouse and you will get information, such as an article about the image the hand is touching.







Top: Arts & Letters Jurassic Art clip art images; Middle: Dinosaurs CD-ROM Database by Microsoft; Bottom: The San Diego Zoo Presents The Animals from Software Toolworks, Inc.

Most of the icons and screens on this CD-ROM use a carved stone motif. In the Index, clicking on a carved letter brings you a screen of all the dinosaurs that start with that letter. A click on the appropriate dinosaur begins your journey.

There are also seven multimedia movies about dinosaurs. For instance, there is one showing Triceratops chasing after another dinosaur through the forest, catching and fighting it, and eating its dinner. Yes, there is even the red blood from the other dinosaur on Triceratops' lips.

The Help system is not the normal text-based Windows Help. Instead, requesting Help brings a screen that uses the same graphics and methods as the rest of the program.

In the picture gallery you can make any of the pictures into Windows wallpaper. Also included in Dinosaurs is the ability to turn any of the dinosaurs' into a screen saver image. (Microsoft Corp., One Microsoft Way, Redmond, WA 98052)

ARTS & LETTERS JURASSIC ART

Published By: Computer Support Corp.
List Price: $59.95
Reviewed By: Woody Liswood

Jurassic Art contains over four hundred clip art images of dinosaurs plus scenes of volcanoes, dinosaur nests, leaves, ferns, trees, and other images to help you create realistic environments. There is also a database with a wealth of information about dinosaurs.

Running under Windows, Jurassic Art uses a product called Scenario to display and edit its images. There is a separate feature, called Flex-Art, that lets you modify and place your favorite dinosaur into almost any situation. This means that the same image from the clip art library can be made to stand, jump, claw, run, open mouth, close mouth, grab, or do almost anything.

If you already use Arts & Letters software, you can load the Jurassic Art clip are libraries directly into the Arts & Letters clip

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art manager. You can also import TIF, WMF, PIC, and TXT files and export to EPS, CGM, TIF, WPG, and WMF formats.

Jurassic Art also comes with a Dinosaur dictionary with information on over fifty species of dinosaurs. You can search through the dictionary to discover both well-known and little-known information, including size, pronunciation of names, and a black-and-white image that shows a silhouette of the dinosaur scaled against a human.

In the Dinosaur Database is a "Where to See" feature that tells you where there are attractions, museums, quarry, and dinosaur tracks in the United States, Canada, and Mexico.

While Microsoft's Dinosaur CD-ROM is oriented more toward education and allows you to print more interesting images, Jurassic Art lets you print a much higher quality image and can be used with almost any of your presentation or illustration programs, plus it has a very useful database.

If you are into dinosaurs or just want to learn about them, Jurassic Art is a "must-have" program. If you are an Arts & Letters fan, this is a wonderful addition to your clip art libraries, giving you a wide variety of dinosaur images to brighten up your otherwise dull graphics. (Computer Support Corp., 15926 Midway Rd., Dallas, TX 75244. 214/661-5429)

THE SAN DIEGO ZOO PRESENTS THE ANIMALS

Published By: Software Toolworks, Inc.
List Price: $99.95
Reviewed By: Woody Liswood

The San Diego Zoo has joined its knowledge about the animal kindgom with the latest in multimedia CD-ROM technology. You can spend hours exploring this CD-ROM—from the Aardvark: Totally Tubular to the Wombat: Kola Kin.

While The Animals is for both MS-DOS and Windows, this review is about the DOS version, which is somewhat crippled when compared to the Windows MPC version. The main drawback with the DOS version is that you cannot copy the graphic images from the CD to another application. To use these images you must use a screen capture program, but you can print the text and factual information to your disk for use elsewhere.

There are over thirteen hundred color photographs and twenty-five hundred screens of text about the animals and their habitat, plus articles and scientific data on more than two hundred animals.

The opening screen contains few icons, mainly giving you an overview and instructions on how to use the Animals. The overview icon is a tramway. At the real San Diego Zoo visitors can take a tramway ride that overlooks much of the zoo. During this ride many people plan their visit. On the CD you can do the same thing.

To run the Animals CD-ROM requires a MPC compliant computer.

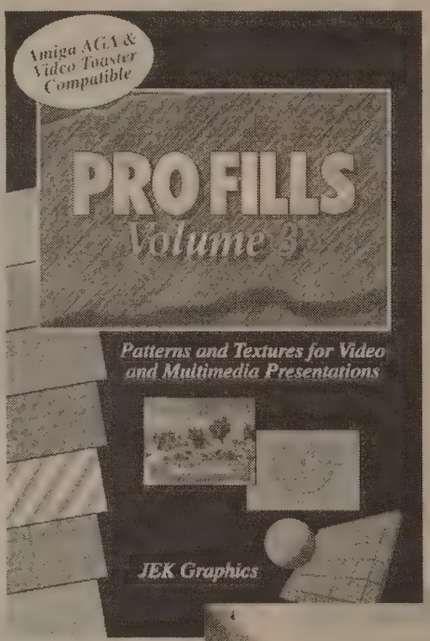
Overall, my two sons (eleven and fourteen) would much rather explore these CD-ROM databases than spend time paging through a paper encyclopedia. And searching through the Animals is much less tiring than spending two days at the San Diego Zoo viewing the same creatures. (Software Toolworks, Inc., 60 Leveroni Court, Novato, CA 94949. 415/883-3000)

AMIGA SOFTWARE REVIEWS

PRO FILLS VOLUME 3

Published By: JEK Graphics
List Price: $49.95
Reviewed By: Douglas J. Nakakihara

Pro Fills Volume 3 offers 139 different patterns and textures, plus eighty-seven inter-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PRO FILLS
Volume 3
Patterns and Textures for Video and Multimedia Presentations
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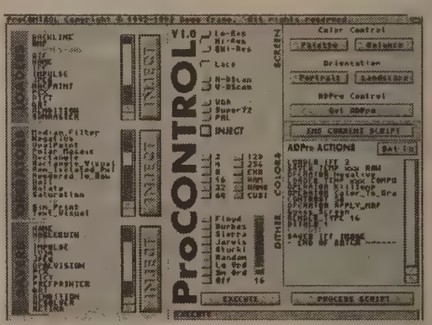

Clockwise from top left: Pro Fills Volume 3 by JEK Graphics; ProCONTROL by ASDG, Inc.; Natural Graphics' Scenery Animator 4.0

changeable AGA and ECS color palettes—all on a single floppy disk. Pro Fills automatically repeats a selected pattern over and over (sometimes called tiling), to create a full screen at virtually any resolution requested by the user. Built-in functions allow you to generate standard NTSC

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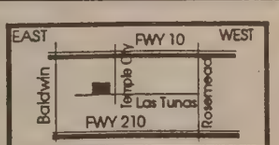

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and PAL Amiga resolutions, including overscan. You can also manually set the resolution up to 10,240 x 10,240! Since Pro Fills builds the image directly onto disk, you don't need all of the RAM typically required to hold an image of that size. The Edge Match feature will create images with perfectly matched sides, great for mapping onto objects in a 3-D rendering program.

Amazingly, these patterns only use six colors from the palette. The remaining colors are available for whatever is overlaid onto the background. Because Palettes and Patterns are both saved as IFF brush files, you can easily create your own using a paint program and use them with Pro Fills.

The manual contains helpful hints on using Pro Fills with the Video Toaster, Art Department, and DCTV, with an extensive section on DeluxePaint. Rendered backgrounds are extremely clean and professional. Pro Fills Volume 3 would make a great addition to anyone's video tools library. (JEK Graphics, Inc., 12103 S. Brookhurst St., Ste. E-125, Garden Grove, CA 92642-3065. 714/530-7603)

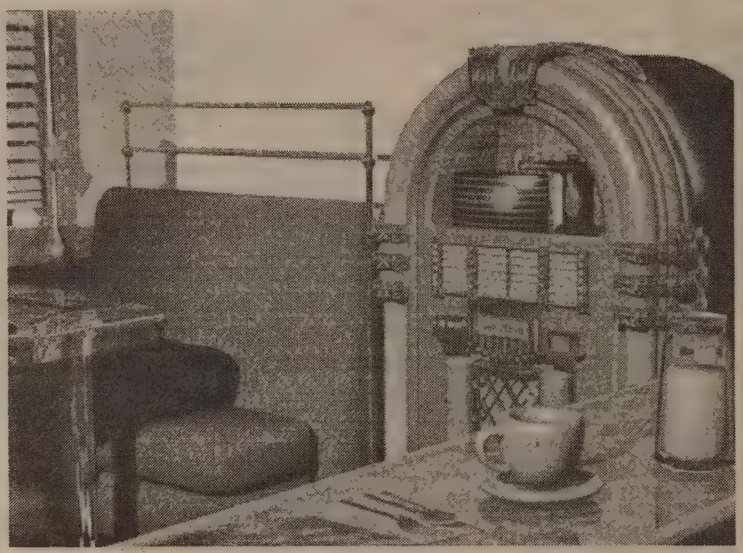
PROCONTROL

Published By: ASDG, Inc.
List Price: $90
Reviewed By: Douglas J. Nakakihara

With the introduction of ProCONTROL, ASDG has brought the power of ARexx programming to the masses. Essentially, ProCONTROL is an Art Department Professional (ADPro) front-end that allows you to write an ARexx script using a point-and-click interface. These scripts can be edited, saved, loaded, and executed directly from ProCONTROL. Processing a sequence of files is as easy as highlighting them in a file requestor.

ProCONTROL also allows you to use incremental values in ADPro's operators in a way that creates movement. ADPro receives a different value each time through the script. You can, for example, easily make an animation fly around the screen while it is animating! The multiple scripts feature allows you to create several scripts that are automatically executed one after another. So you could take an animation, change it to grayscale in one script and then make it fly around the screen with the next script.

ProCONTROL is to ADPro, what the Workbench is to the CLI. It controls ADPro so well you may never have to run ADPro by itself again. It almost makes me ill to think of the hours I've spent writing and debugging ARexx scripts, before I acquired ProCONTROL. Of course, for really complex stuff you may still have to write your own ARexx scripts, but ProCONTROL should suffice for 95% of most people's needs. If you use ADPro, you need ProCONTROL! Requires ADPro v2.3 or later and will also work with MorphPlus. (ASDG, Inc., 925 Stewart St., Madison, WI 53713. 608/273-6585)



Diner Object Set for Imagine

SCENERY ANIMATOR 4.0

Published By: Natural Graphics
List Price: $99.95
Reviewed By: Douglas J. Nakakihara

Natural Graphics has figured out a way to make their 3-D landscape rendering program, Scenery Animator, even better. Version 4.0 now supports the new AGA modes for greater resolutions and more colors. This product generates breathtaking still and animated landscapes with trees, clouds, lakes, oceans, and snow, based on US Geological Survey or imaginary fractal data. Data files for Yosemite, the Grand Canyon, Oahu, and Mt. St. Helens are included.

This version features the ability to directly place and animate VideoScape 3-D objects (ASCII format only) into your scenes. Several objects, including a star field, are included. This is a fun feature, but the object rendering quality is not up to par with the landscape.

Trees can also be manually placed if you wish. Zooming is as easy as dragging a bounding box on the picture of the area you want to zoom in on. Also, a night option is now featured. The preview screen is reportedly twice as fast as v3.0. Camera movement has been made much easier. Scenery Animator's integrated animation editor now provides smoother paths and banking. The point-and-click animation interface is still very easy to use and requires no script writing.

Although it has been improved, the interface could still use some additional work. Several parameter settings require too much esoteric numerical input. Also, simply adding some slider gadgets would be very helpful. However, Scenery Animator is still my favorite for rendering clouds—they're absolutely beautiful. (Natural Graphics, PO Box 1963, Rocklin, CA 95677. 916/624-1436)

DINER OBJECT SET FOR IMAGINE

Published By: Terra Nova Development
List Price: $47.50
Reviewed By: Douglas J. Nakakihara

Brad Schenck, the well-known Amiga animator, has released his first commercial set of 3-D Imagine objects. The three-disk package comes with all of the objects necessary to build a complete 1950's diner,

Continued on page 159

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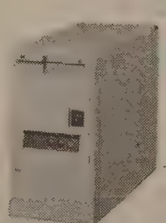

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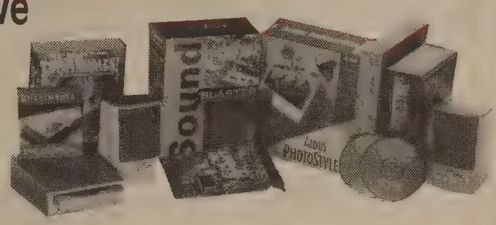

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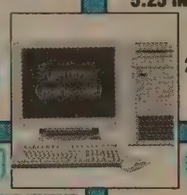

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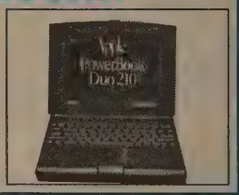

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HOLIDAY Gift Guide

Continued from page 154

many with low- and high-resolution versions. The list of objects include counter, booth, jukebox, pay telephone, dish, cup, table, water glass, napkin holder, salt and pepper shakers, silverware, stool, sugar jar, toilet, donuts, chalk board, menu, sink, doors, walls, and ceiling.

Two example project staging files are provided, one requires 14MB of RAM to render and the other needs 5MB. The projects have several different camera shots of the diner. Using one of these project files as a starting point can save you the work of positioning all of the objects yourself. Of course you can always "rearrange the furniture."

Raytraced rendering took nearly twenty-six hours for some frames on my aging A3000, but the results were more than worth the wait. Using the scanline option and a lower resolution, rendering time was cut to several frames per hour. Also, lowering the RSDP and increasing the EDLE values in Imagine's preference settings will speed up rendering time.

Brad is one of the masters and it shows in this product. If you need objects of this sort or just appreciate Brad's work, the Diner object set will not disappoint you. (Terra Nova Development, Inc., 1535 Santa Barbara St., Ventura, CA 93002)

BRILLIANCE

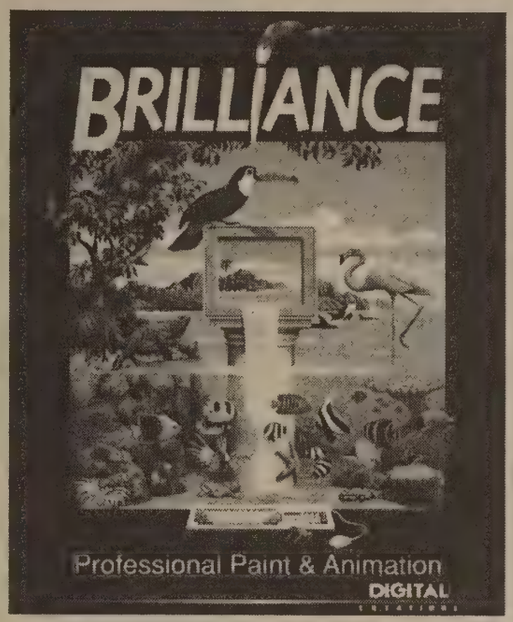
Published By: Digital Creations
List Price: $249
Reviewed By: Douglas J. Nakakihara

Brillance, Digital Creations' new paint program ships with two versions of the program. One uses the normal "register"-based graphic modes and the other uses the Amiga's HAM modes. Of course, AGA is fully supported and IFF24 images can be loaded and saved.

Those of you comfortable with DPaint (from Electronic Arts) keyboard commands, will feel right at home with Brilliance, as most of the keystrokes are the same. Many of the drawing tools also operate similarly. The graphical interface is significantly different, however, and uses stacking menus (not pull-downs).

Brilliance has all of the paint features you might expect, but adds many improvements to the DPaint standard, such as brush wells. For instance, you can have up to eight brushes and anim brushes at your fingertips without having to load and save files. You can also have several images in memory at the same time. Multiple undo and redo is supported as well. The animation function has opacity and decay settings that permit you to change the appearance of a brush as it is animated over several frames. The standout feature of Brilliance is speed, but there are many other outstanding features.

In a nutshell: Brilliance provides all of the power of DPaint and more. Only the joystick-port dongle may keep Brilliance from becoming your favorite paint program. (Digital Creations, PO Box 97, Folsom, CA 95763-0097 916/344-4825)



Top: Brilliance by Digital Creations; Bottom: Magic Lantern by Terra Nova Development

MAGIC LANTERN

Published By: Terra Nova Development
List Price: $95
Reviewed By: Douglas J. Nakakihara

Magic Lantern is a new animation compiling program for all Amiga display modes including AGA; MacroSystemUS's Retina and Expert Services' Picasso II in 8-, 16-, and 24-bit modes; Centaur's OpalVision; and GFXBase's GDA card. With Magic Lantern you can now combine animations and audio (mono only) into a single playable file.

Using a graphical interface, it is a simple task to identify the desired image and audio files. Achievable frame rates will depend on many factors, including your Amiga's capabilities, the selected display-mode and resolution, and the delta (i.e., difference) between each frame. Magic Lantern provides a variety of options to optimize your anim, including single- and double-buffering. There is ARexx support for nearly all functions.

In the Synchronize mode, Magic Lantern will strictly enforce the user-specified frame rate. If your system cannot keep up with the frame rate, frames will be dropped. This differs from the normal Amiga Anim formats, which would simply play the anim slower.

Two freely distributable player programs come with the program, PlayDiff and PlayDiffHD. PlayDiffHD will spool animations directly from a hard drive; however, performance will most likely be less than acceptable unless you are using a CPU-SCSI accelerator board or an A4000 with

Continued on page 202

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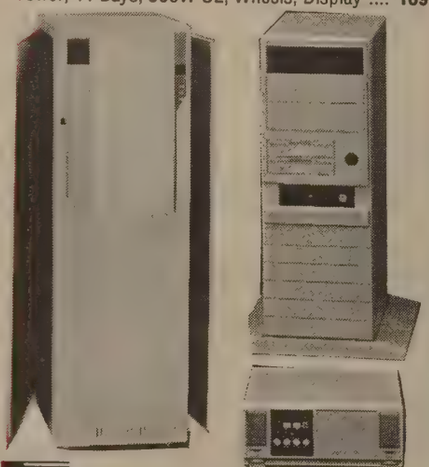
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more, but it's worth it. Why risk thousands of dollars of equipment on a $10 power strip? Some of these devices even protect against surges in the phone line. Power control centers that sit underneath the monitor are great, but only use them in conjunction with a good surge protector.

Computer tool kits are extremely handy. No only do they eliminate a trip out to the garage, they provide a lot of special tools for working on a computer. Furthermore, normal screwdrivers are magnetized and should not be used on a computer; make sure the toolkit you select does not contain magnetized tools.

With the discovery of multimedia by the IBM PC world, there are several companies that make small self-amplified speakers that will also work great with any Amiga. For those that don't have a monitor with built-in stereo speakers, these can be very nice. Of course, the fidelity won't be spectacular. If you need high-quality audio, you'll have to spend several hundred dollars.

Another cool gift is a floating monitor stand. These connect to a desk and allow the user to swivel the monitor 360 degrees, as well as up and down. The price of these can vary widely; however, I have seen them as low as $45. Besides this type, there are other types of monitor stands, as well as various CPU holders, keyboard trays, document holders, etc., which would make fine presents.

A gift that will be remembered a whole year is at the lower end of this price range—a subscription to an Amiga-specific magazine. It is really surprising to me the number of Amiga users who don't subscribe. In the US there are really only two to choose from, *Amiga World* and *Amazing Computing*. Both of these are excellent publications and have been covering the Amiga for many years. Each has its own style and offers its own slant to Amiga coverage, so a subscription to both is by no means overkill.

If your Amiga lover is into video, *Video Toaster User* would be a great choice—even if he or she doesn't own a Toaster. Visit your local bookstore and buy a copy. As with all magazines, there will be a card you can send in for a subscription. You can wrap the copy you bought with a note about the subscription.

Is the Amiga keyboard looking a little ratty? Consider a replacement keyboard. These are available for all models, including the ones with the keyboard imbedded in the CPU case, the A500 and A600. A new mouse is also a great gift. These creatures get used quite a bit, and there is nothing more frustrating than a malfunctioning rodent. Also in the input-device family are joysticks. Think of the hugs and kisses you'll get when your Amiga lover attains a new high score, all due to the new joystick they got for Christmas.

If your Amiga lover has a IBM PC emulator card and is constantly complaining about having to use two monitors, consider purchasing a monitor switch box. Generally, you'll want to get a switch box that uses what's called HD15-pin connectors. (I've never seen one that uses the non-standard Amiga 23-pin variety, though you could hack a 25-pin one.) Don't forget to get the cables too.

Commodore makes a neat little device called the A520 that makes it possible to connect an Amiga to any standard TV. This is a very inexpensive way to record Amiga animations on video tape.

Of course, your Amiga aficionado can never have enough games, and there are many to choose from. I suggest visiting an Amiga dealer and having someone there recommend a title. They may be able to pick one that suits someone's particular tastes.

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It's hard to believe, but you can actually get a 2400bps modem for under $100. These are not lightning fast, but are more than adequate for most situations. You might be able to find a 9600bps one in this price range too.

Although, the Amiga is a multitasking computer, programs can still be unavailable when printing since your computer can generally send data quicker than a printer can print it. A easy solution to this is adding an external print buffer. These are not platform-specific peripherals, so generally any IBM PC-type will work with an Amiga. The only thing you have to really worry about is if the printer uses the parallel or serial port.

If your favorite Amiga user still has only one floppy drive, consider a second one. A

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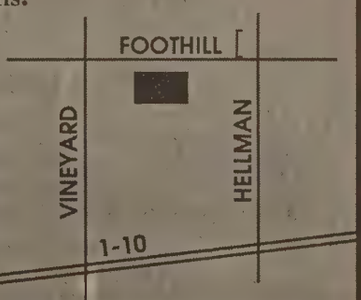

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high-density drive should be selected if the Amiga is running DOS 2.1 or greater. These cost around $100, with normal density drives slightly cheaper. All Amigas have external drive connectors so external models are nearly assured to work.

Although, I've tried to stay away from specific software titles, there are a few programs that are a must for any Amiga owner. Here's a list of some of my favorite titles available in this price range. For a good paint program, Electronic Arts' Deluxe Paint IV (get the AGA version if the Amiga is a 1200 or 4000) is a standard among standards. Audio editing doesn't get any better than Oxxi's AudioMaster IV. If a great word processor is on someone's list, New Horizons' ProWrite and SoftWood's FinalCopy II are available in this price range.

For creating super animations with very little skill required, try either Virtual Reality Labs' VistaPro or Natural Graphics' Scenery Animator. If the Amiga has a hard disk, backup programs from Central Coast and Moonlighter, Quarterback and Ami-back, respectively, are superb. Both companies also make hard disk utility programs, Quarterback Tools and Ami-back Tools, which are indispensable.

WHERE TO BUY

Your nearest Amiga dealer is the best place to make your purchase. Several advertise right here in *MicroTimes*. Most general computer stores cater to owners of IBM PCs or Macintoshes, and are therefore not usually able to field questions on the Amiga, even though a lot of the computer hardware they sell will work with one.

If you are not near a dealer, you must rely on mail order. If you utilize this route, you should remember a few things: always pay with a credit card; get the delivered price (i.e., price including tax, shipping and handling, credit card fee, etc.); write down the person's name you are talking to; and ask about the return policy.

Obviously, there are millions of other things you could buy as a gift, but the above list will help you satisfy that picky Amiga lover. Happy holidays everyone and a happy new year! ■

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Multi & Media beyond

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Multimedia Gifts

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BY TONY REVEAUX

What is the best present you could give to a friend who wants to get into multimedia? Why, talent, of course! ...Oops, I can't seem to find any *talent* packages around anywhere. What's the matter with those Artificial Intelligence guys, anyway?

But the next best things to talent are knowledge and skills. A multimedia project, by its very nature, is a compound structure made up of different applications and elements: graphics, sound, animation, photos, motion, and text. It's as if you were building a house by yourself and had to be equally proficient in design, foundation, carpentry, plumbing, and electric.

In the last five years, the opportunities to learn multimedia in the classroom have greatly expanded; you can take classes at San Francisco State University's Main Campus and Downtown Center, or at other, private venues where you can take one class or study in an extended program. Other resources can be even closer to hand for your personal instruction: books, tapes, and discs for the Macintosh that show you how to learn multimedia—at your own pace and in the privacy of your home—through examples and demonstrations of multimedia.

DIRECTOR ON VIDEOTAPE

"Master Macromedia Director 3.1: Essential Techniques, Tape 1" by Charles Wyke-Smith is a ninety-minute VHS videocassette available from Multi-Facet Communications for $49.95. Wyke-Smith is a partner of San Francisco-based PRINTZ Electronic Design, and he genially leads you through each step of the way, narrating over the real-time desktop procedures.

His descriptions and pacing of the sequences of actions are easy to understand and to follow. He covers the windows and other parts of Director, how to create animation, film loops, ink effects, importing, and building a presentation. More tapes are planned for the series. Tapes 2 and 3 will demonstrate in-depth creation of graphics in Paint window, Cast and Palette management, learning Lingo (Director's scripting language), and learning how to design and create interactive presentations.

Even on my Sony 20XBR monitor, the text on menu selections and Director windows was not very legible. This is not always a drawback, since the author is

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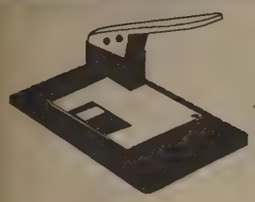

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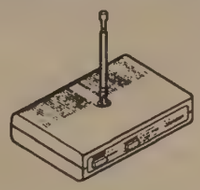

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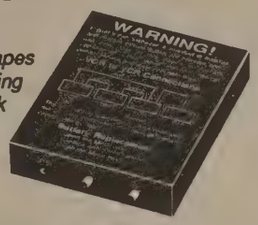

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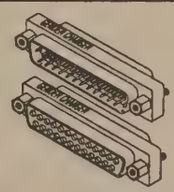

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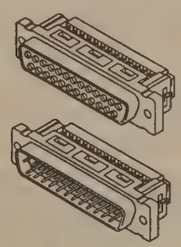

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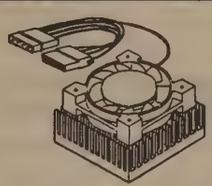

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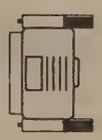

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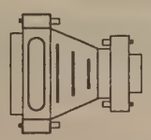

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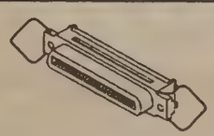

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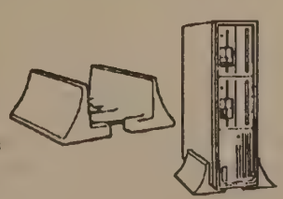

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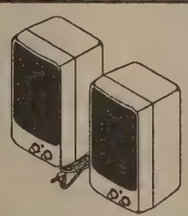

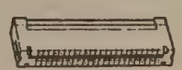

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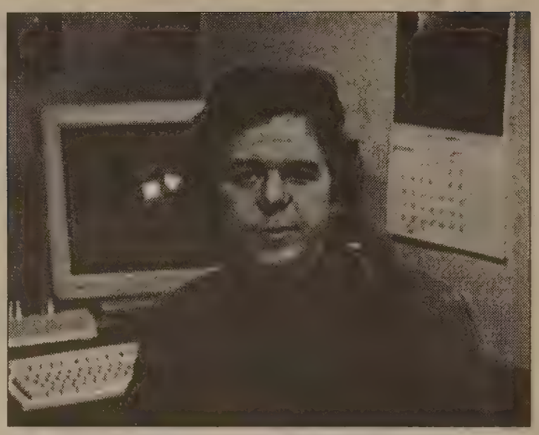

Master Macromedia Director 3.1:Essential Techniques, Tape 1 by Charles Wyke-Smith.

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always describing the selections, and you will be referring to your documentation and your own on-screen actions. In these videos, it would be helpful to include an insert window that would reveal the off-screen keyboard selections for each action, even though they are always described by voice.

Of course, the best way to view this tape is not just on the VCR in your living room, but also on your computer screen. If you are already sufficiently into desktop video enough to have a video capture board, or one of Apple's new AV line of computers such as the Centris 660 AV or Quadra 850 AV, you can watch it on the monitor in a window size of your choice, using a RasterOps 24XLTV video capture board outputting to a second Apple RGB monitor. With RasterOps' MediaGrabber utility, I can capture frames of choice from the PRINTZ tape for further study and comparison.

DIRECTOR ON DISC

Tony Bove and Cheryl Rhodes are desktop multimedia pioneers. Publishers of the newsletters *Inside Report on NewMedia* and the *Macromedia Developer Letter*, they have transformed one of their books, *Using Macromedia Director*, to CD-ROM. But not only is it on CD, the text is in Voyager's Expanded Book Format, and there is a great selection of illustrations and animations. The disc ($49.50) includes a copy of the latest version of HyperCard, which is the foundation for Expanded Book and some of the examples.

Since this is an Expanded Book, you can search text, read page-by-page or access by number, mark passages and pages, cut and paste, and type in your own margin notes. This is a much more readable and researchable format than even the best word processor.

The classic paper book, by Que, certainly has many illustrations and examples, but here, they sing and dance, in black-and-white and in color. You don't need to have the Director application to run these animations; HyperCard and the Macromedia Director Player on the disc allow you to open and run them, and even, as in some of Stuart Sharpe's classy artistry, click on and interact with them.

The authors cover all the essentials and offer an overview of Director's possibilities. Their first chapter, "Introducing Multimedia," considers the entire multimedia creation and development environment, with all the hardware, software, and peripherals you will need to get started. Getting into the program, "Using the Overview," "Using the Studio," "Painting Techniques," "Animation Techniques," "Interactive Media Techniques," and "Using Audio and Video" thoroughly cover, in an accessible style, the multipath way to multimedia on the Macintosh.

3-D TUTOR

This $119.95 CD-ROM from Zelos! is a jewel. Not only does it give you previews and overviews of almost (what happened to Swivel?) all of the major 3-D modeling and creation applications for the Mac, but—as a multimedia production—it is a shining example of good interface design. Not only is there different music over many of the examples, but you can go to the music menu to play them and access the credits and contact information for the composers.

3-D Tutor shows demonstrations of Animation Stand, CameraMan, Cinemation, DynaPerspective, formZ, HyperSpace, Infini-D, Life Forms, Macromind Three-D, MacroModel, Modelshop II PresenterProfessional, Promotion, Ray Dream Designer, Sculpt 3D, Sketch, and Stratavision 3D. This gives you a chance to really see what's possible on a Mac (and probably a Quadra, while you're at it) and compare the different attributes of what are complex, and very often expensive, applications.

PHOTOSHOP ON DISC

The "CPM Graphic Tutor 2" for Adobe Photoshop v2.5, from Casey's Page Mill is expensive at $489, and lacks any paper back-up documentation, but it's a very well done, crystal clear, in-depth tutorial of Adobe's cornerstone image editing program.

You don't need to have the Photoshop application to run these animations. What you see on the screen is the window of the Photoshop function of your choice. A (male) voice narrates the guidance as you see the cursor move through the steps of the operation, with every check box and option accounted for. In many of them, you can choose each tool that you want to learn about in that function, and the action will illustrate the steps to be taken. There is a VCR-like control panel that allows you to stop, start, go forwards and backwards; a thermometer guage indicates where you are in the material. It's sometimes hard to navigate from one section to another, but this is a very authoritative and methodical source for really learning those elusive details of Photoshop.

ADOBE PREMIERE ON DISC

Hayden's *Adobe Premiere: Classroom in a Book/for Macintosh* is a $44.95 198-page book with a CD-ROM that is laden with step-by-step illustrations and examples of Adobe's QuickTime motion document editing program.

You *do* need to have the Premiere application. Instead of just an application tutorial, this package functions much as a progressive post-graduate course in using Premiere; it can also be used as a supplement to the Adobe documentation to help you master most of the basics.

There are valuable reiterations of many basic techniques, but the book is really project-oriented, centered around an international theme. The projects include a countdown (with and without audio), rolling credits, special effect movie, animation, documentary, and an annual report. If you are really serious about desktop video with QuickTime, this will be an invaluable ally. *Adobe Photoshop: Classroom in a Book/for Macintosh*, from Hayden, is also available.

DESKTOP VIDEO

The $34.95 *MacWEEK Guide to Desktop Video* by Erik Holsinger from Ziff-Davis

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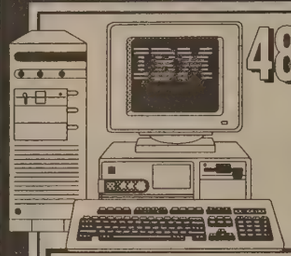

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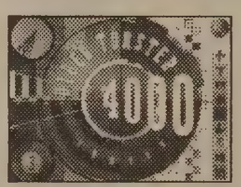

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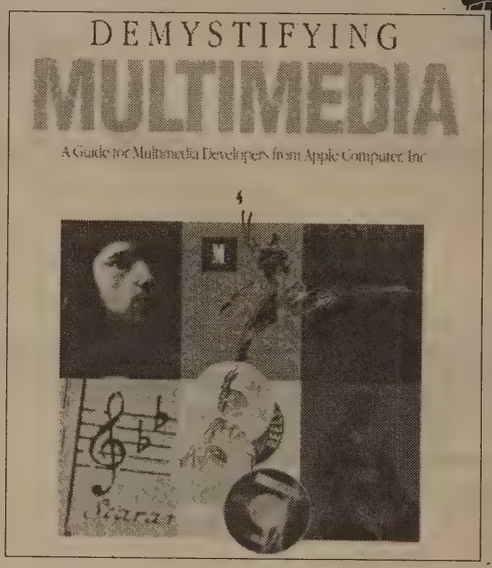

Press is a 305-page overview and workbook for desktop video production on the Macintosh platform. You are guided through computer-aided video in context with video technology and traditional production, introducing basic Mac software and hardware as tools for achieving digital video on the desktop, from preproduction and production to post-production. Holsinger explains QuickTime, shows how to create video graphics and titling, and provides new technologies and product listings. The enclosed CD-ROM includes a great wealth of software demo programs, clip-art samples, interactive tutorials, and interactive versions of major graphic examples.

DEMYSTIFYING MULTIMEDIA

All right, maybe this should have been the first selection—but unlike the previous products, it's only paper. *Demystifying Multimedia: A Guide for Multimedia Developers From Apple Computer, Inc.* is a $25, 284-page book from Apple with the look and feel of a black-and-white *Wired*. It is organized as process-oriented case studies, while examining and revealing the roles of audience, clients, managers, experts, and practitioners. One of the best things about the book is its many interviews with multimedia movers like Doug Camplejohn, Dan Backus, Mark Schlicting, Kristina Hooper-Woolsey, and Joe Sparks.

This is also one of the worst examples of icons-gone-amuck, proving that even the professionals are not immune to bad design.

The projects it discusses include electronic books, kiosks, multimedia databases, interactive training, music and games, art and performance, presentations and marketing, and productivity and authoring tools. The book's Resources Index is a very good access and contact list for many books, periodicals, associations, conferences, and software and hardware products. ■

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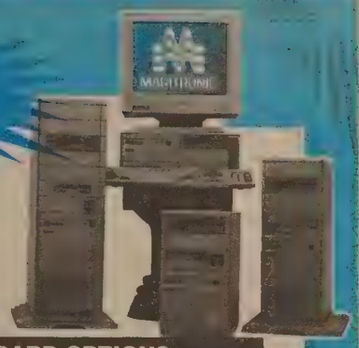

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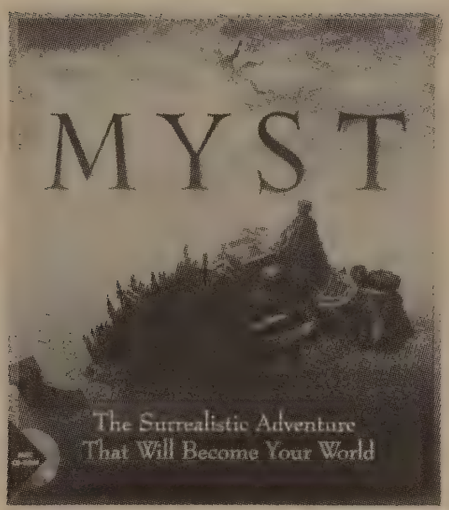

MULTIMEDIA 101

MYST:

A Multimedia Adventure

BY JONATHAN E.

Granted, at times of intense awareness
I see this web of hieroglyphics breathing just beneath the surface of things, an ineffable fabric of energy, signs which could surely be deciphered by somebody, somewhere, an ancient language pointing me toward the scattered meaning of things. If only things talked. But perhaps I'd grow tired of listening to trees as well, or stone chairs or ceiling fans, or even the moon.

— **Stephen Beachy,** ***The Whistling Song***

MYST

Myst is a fiendishly difficult, engaging, frustrating, and fascinating CD-ROM game that requires great powers of observation and interpretation. You must see the "web of hieroglyphics breathing just beneath the surface," decipher them, and discover "the scattered meaning of things." The language used consists of ancient and archaic symbols in a setting that's at once primeval and high-tech. Objects do not talk with English words in this game, but sounds play a role, both providing clues and, when correctly manipulated, acting as keys to unlock doors and fly spaceships. And, as engaged as one can become in this world, the limitations of the CD-ROM medium can still be tiresome.

The objective of Myst is itself a mystery in the beginning. The game comes with virtually no details beyond a user's manual containing the technical requirements, very few keyboard commands, simple instructions on moving around and manipulating objects, a sealed envelope of "Three Myst hints" with a "Warning! Open only if in dire need ...," and "The Journal of Myst," a book for recording your observations, with only the barest advice printed on the first page. It reads in part, "You must let Myst become your world. The land will offer up the answers you seek, if only you have eyes to see, ears to hear...and wits to remember. ... Record every scrap of evidence you find, no matter how insignifi-

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cant it may at first appear. Words, numbers, pictures, patterns...the form is not important. In the end, these shards of broken worlds may be your best hope of discovering the identity of that betrayer of ages past, that destroyer of cultures, that defiler of sacred traditions."

The only other advice you get comes from the short introduction in the manual that states, "Myst is real. And like real life, you don't die every five minutes. In fact you probably won't die at all. There are no dead-ends, you may hit a wall, but there is always a way over or around. ... The puzzles you encounter will be solved with logic and information—information garnered either from Myst or from life itself. The key to Myst is to lose yourself in this fantastic virtual exploration, and act and react as if you were really there." From then on, you are on your own to figure out what this is all about.

PLAYING THE GAME

Once you've copied the Myst icon and files folder on to your hard disk and double clicked on the icon, the game begins with music and credits, much like a movie. However, interactivity mercifully lets you skip them with a mouse click (if you do, you'll also miss a spectral voice bemoaning the loss of the speaker's book of Myst, worrying about whose hands it may fall into, and warning that "perhaps the ending has not been written").

Of course, it's your hands that the book has fallen into, as the screen shows by becoming the book, which opens to a page with an aerial view of an island, the island of Myst. Click on the image and you're transported through a QuickTime movie window to a dock with a sunken ship alongside. You're now free to look around and explore the island—and a powerfully evocative place it is.

As you explore, you discover a giant pair of gear cogs, a planetarium, a library, a rocket ship, a powerline from a set of underground generators to the rocket ship, a wooden shack with a boiler and a combination-lock safe, a redwood tree encircled by a brick wall, a clock tower just off the island, a small pool with a sunken miniature ship, a series of columns with strange symbols (astronomical constellations, perhaps) embossed upon them, and an underground chamber with a shimmering pool of water. Along the way, you encounter a series of strange boxes with a switch on top of each. You also find a sheet of paper with a note that you can pick up and read. At first, it doesn't make much sense. Later, when you've explored more fully and considered various other clues, it's an important signpost to the crucial point—the way to get off the island.

NAVIGATION

Navigating is relatively easy. Initially, you're pointed in what might be considered to be the right direction, although you later have to do some backtracking; once you know at least some of what's going on, there are quicker ways of covering the terrain on repeat games. Basically, the pointing hand will point either straight ahead, left or right, and a click will take you in that direction or rotate you around. Sometimes you can look up or down. It's a good idea to search all around to get some sense of what's where.

The major difference between real life and the computer world is that the computer world totally defeats my real-world sense of direction, which is quite strong—I constantly felt as though I'd been blindfolded and spun around, as in a game of hide-and-seek. This was especially disorienting in claustrophobic passageways, and it was often difficult to know whether I'd turned around 180° or only 90° to face a branching tunnel.

You can only rotate in 90° or 180° increments, and you may travel a step or several yards with a click. If the location is not important, you can't get there, but you don't learn this without repeated clickings that take you nowhere. You can go behind some objects and structures but not others.

The biggest problem is that the pointing hand is active in different areas on different screens, although it's the same pointing hand and the only options are going straight ahead or turning around. It also becomes frustrating when you want to just cut across a room but instead have to take a step back, rotate through 90° or 180° and then click yourself forward. This tedious clicking several times to complete a simple maneuver must be repeated again and again at certain stages. Once you've figured out a little of the strategy, this becomes pure finger exercise. There is a "zip mode" that allows you to travel quickly between places you've already been, but it doesn't do anything in tight quarters such as a room.

Clicking on an object will bring you closer, and clicking to the side will generally distance you. You can also manipulate objects when you're close enough by clicking on them. You can take books off a shelf and flip through the pages, turn switches on and off, and change the settings of counters. The pointing hand will turn to a grabbing hand when you can drag an object in some way such as pulling levers or turning valves or wheels.

VISUAL DELIGHT AND WHIMSY

Myst is beautifully rendered. Stylistically, it's drawn in a fantastical but semi-realistic 3-D style. The exterior landscapes were painted in grey scale with the lighter areas representing the higher terrain, extruded into 3-D models with StrataVision and then painted with textures as rocky or grassy areas. Trees and other details were then added.

The interiors were also created as 3-D models in StrataVision. The result is that the player sees the rooms and exteriors as a series of screens from virtual camera angles. It's an extremely detailed world with small objects abundantly represented. Parts of it are a delight to look

continued on page 183

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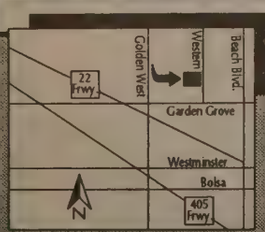

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at, while others are a little scary. The world is particularly immersive because the menu bar is hidden unless called up; all you see on the screen is the story.

In order to overcome the slow speed of CD-ROMs, the color was cut down to 8-bit, with adaptive color palettes for each area of the game. With the use of these palettes, the color looks close to 24-bit. In addition, the still images as well as the movies were compressed using QuickTime compression. Some of the ground textures are a little patchworky; the tree leaves are a bit on the thin side; occasionally a pool of water shimmers on one screen but not on another, or the water doesn't extend quite all the way to the edge of the pool. However, these are relatively minor details and, as with a visit to the theater, some suspension of disbelief is in order.

These deficiencies are more than made up for by the charming details—birds silently appearing in the distant grey sky, or butterflies fluttering down a wooded path. My favorite visual effect was the match that lights the boiler and then burns out, dropping to the ground, after you leave the room.

The transitions from one screen to the next, or from one virtual camera angle of the 3-D model to the next, can be set from 1 to 4. Level 1 is the fastest with no visual effects, while level 4 is slower but offers some beautiful effects. Different Macs respond differently to the different levels. On a slower machine one can often see the "join" between the two screens as the image wipes, leading one to erroneously believe that there are suddenly two doors instead of one. This can be confusing and frustrating—you find yourself looking for the second door, not quite sure what you can trust in this make-believe world.

Of particular note is the imaginative use of QuickTime movies to create books with moving pictures inside them, secret messages and other images emerging from pools, rocket navigation systems, and remote surveillance devices. The dropping of pages one by one as you find them into books to progressively reveal the full QuickTime movies within is sheer genius. If you ever wondered how QuickTime could really be used in its current primitive state, Myst provides the answer.

SOUNDS

Myst is full of sounds, both environmental ambience and sounds that provide a specific function in the story. You can toggle the environmental sounds off or on from the keyboard—at one particularly frustrating and claustrophobic location, I found it necessary to turn them off because everything was just too intense. However, many of the environmental sounds are more bucolic—waves and water, birds, the wind. The important issue is that the sounds really add to the atmosphere.

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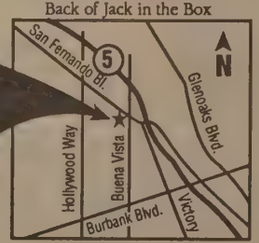

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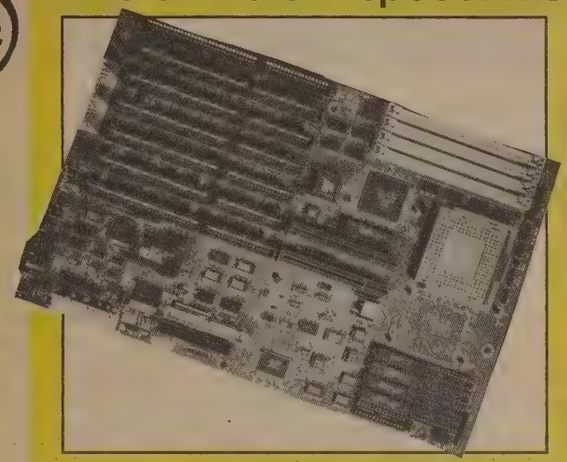

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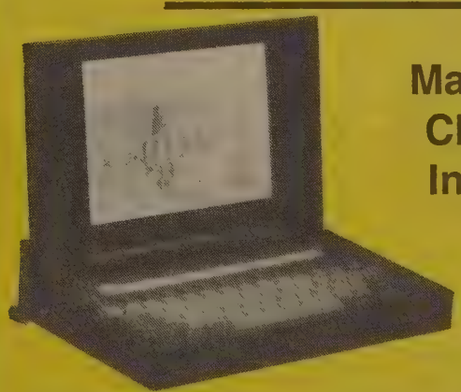

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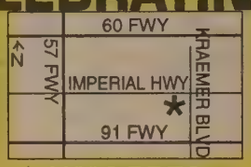

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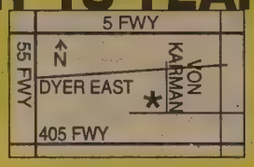

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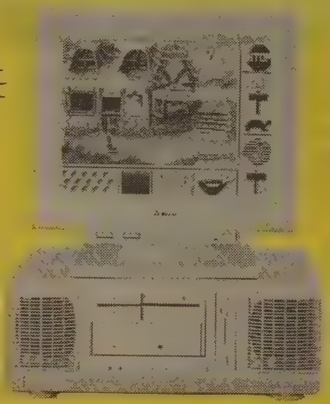

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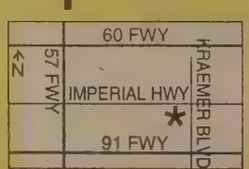

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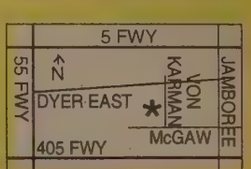

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cific events. You must reproduce some of these sounds with visual onscreen keyboards or slider controls to obtain a desired result. In at least one case you must deduce the required sounds from a diagram and then reproduce them by ear. This appeared to be overly challenging, but in fact was just one more fun hurdle to leap.

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I recommend Myst without reservation to anyone with the requisite system and a lot of time to engage in exploration and practicing intellectual agility.

tions into cohesive worlds, are quite extraordinary. The use of symbols to communicate basic meaning and to enlarge that meaning is also most impressive.

This is not an easy game to play, but it involves you in an ongoing process of understanding that is both fun and challenging. You can save games to avoid the need to start at the beginning every time, although this does not restore you to the precise location at which you left the game. I recommend Myst without reservation to anyone with the requisite system and a lot of time to engage in exploration and practicing intellectual agility. You could probably spend weeks at the game before you discovered everything there is to discover. Myst could be one of those "killer apps" that make the hardware worthwhile.

The CD-ROM contains over 520MB of files; the largest file is 17,559K. Despite this size, it's reasonably fast, although once you know your way around, you may find yourself champing at the bit a little. The CD-ROM also contains The Making Of Myst, an interesting fourteen-minute, 71,928K QuickTime movie.

TECHNICAL DETAILS

Myst requires a 256-color Macintosh, 4MB of RAM (2500K of free RAM), System 7.0.1 or higher, and 3MB of hard disk space. A Windows version is currently in development. If you get really stymied or are sufficiently pessimistic about your chances to solve the puzzle, there is also a Myst Official Game Secrets hint book available.

Both the CD-ROM and the book are available from Brøderbund Software, P. O. Box 6125, Novato, CA 94948-6125; (415)382-4600. ■

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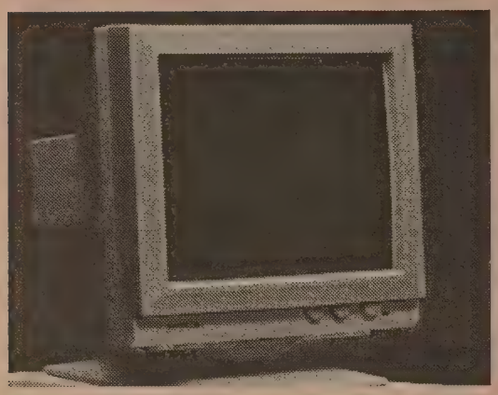

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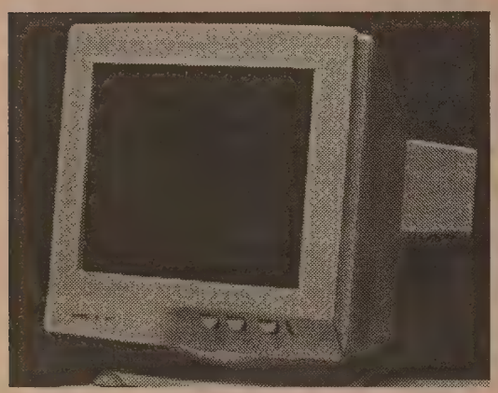

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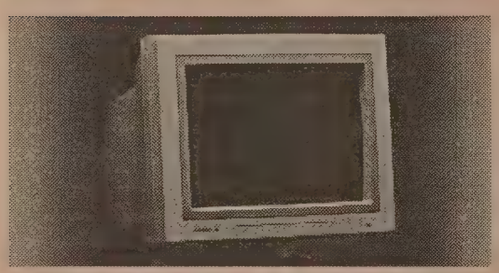

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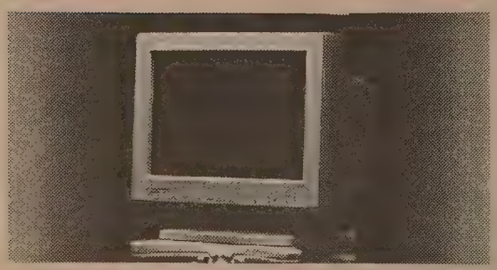

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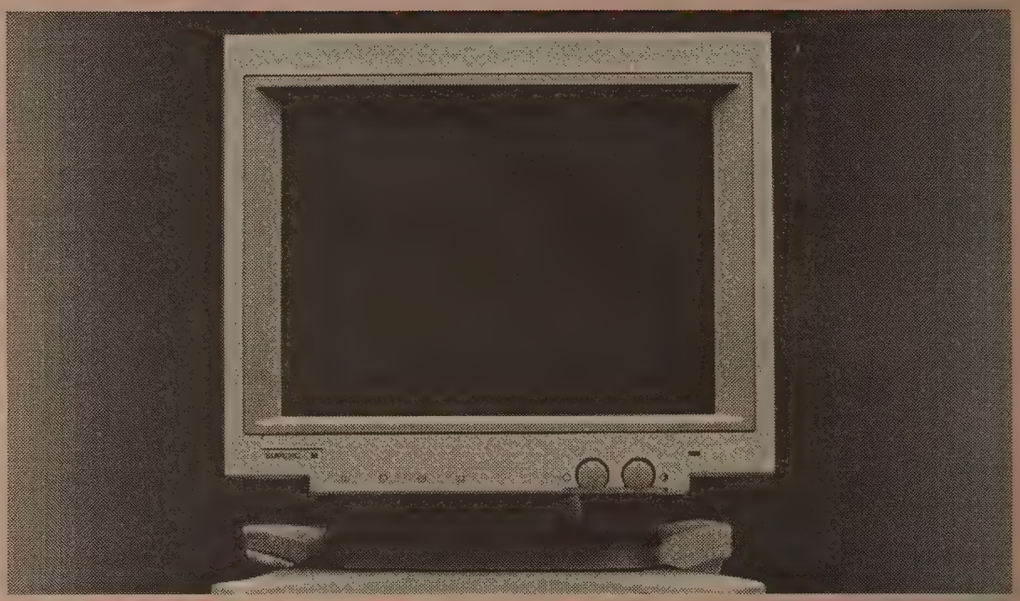

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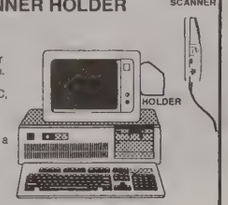

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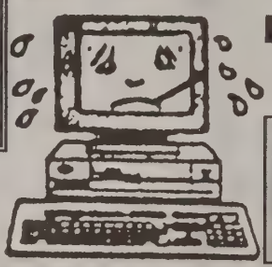

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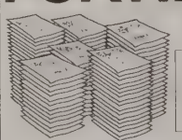

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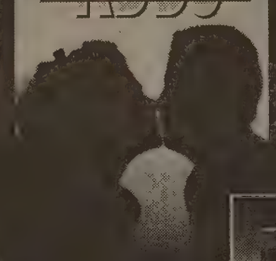

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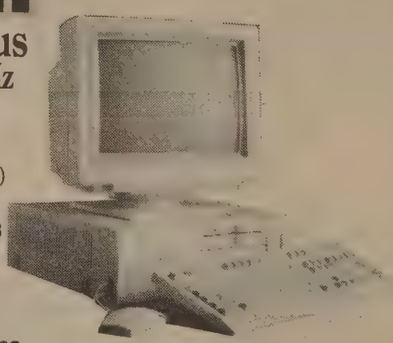

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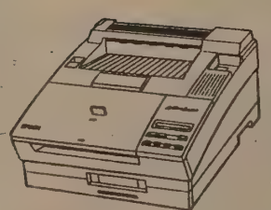

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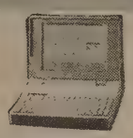

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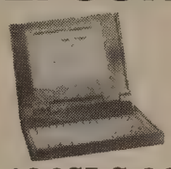

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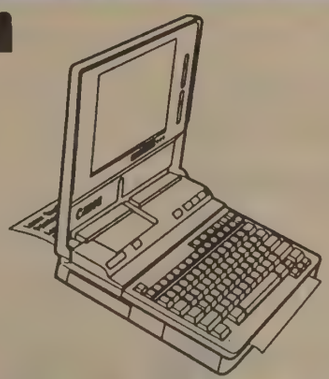

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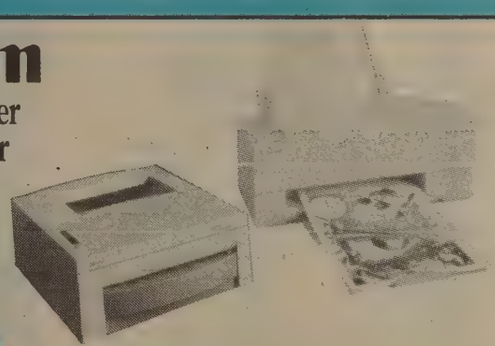

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continued from page 92

verse between common carriers and content providers, there's something else, what I call the interface providers. It's the interface providers that provide the perceived added value to people. A lot of what America Online did that succeeded was that they came up with a visual interface that was transparent enough and easy enough for people to use that it's been successful. And now the content flocks to it.

The trouble is, most content is either very fungible—you can multi-source it, and therefore it's very hard to get value around it—or it has a very high decay rate because of its time value. All these networks are big enough that unless people are targeting that specific information content directly into a vertical channel, they don't have a whole lot to offer out there.

I don't know how many times I've had the Hearst people or Times Mirror or whatever come in and say, "Here's what we've got. You want any of it?" And I say, "No, not that I can think of, why?" And they say, "Well, we want to get into multimedia."

I actually had this experience in New York just last month. Some very talented film guys, who'd won a bunch of Oscars, had been hired onto one of these major media groups. I said, "What's your experience been?" They said, "Well, we had a company in the other week, and we said, 'Look, we want to focus on skiing. We've looked at all 125 magazines that we have, and this one has the highest computer ownership among its readers.' And they said, 'Sure, we see a way that we could do a great instructional ski thing—we'd do it on CD-ROM, we'd do voice instruction and we'd get one of these great skiers...' And they went on and on."

At some point they realized that the magazine wasn't intending to pay them to do this, but was hoping that they would do this on their own. They started talking about joint venture, and people got a little more remote, and finally the magazine said, "Well, what we really want to do is license the use of our magazine name." The people rolled their eyes and said, "Why? Why? It doesn't add anything." They said, "But you'd have access to all of our content." And people said, "What do you mean, your content? You mean last year's ski magazine articles? There's no value there."

So the guy turned to me and said, "My perception is we're trying to get into a business in which we have no experience, in which we have no assets. I'd just like to confirm that that's the case." I said, "Yeah, I think that's very accurate."

There's nothing wrong, you could do it, and you'd probably get some marketing synergy if you do—presumably you could give yourself cheaper rates in your own magazine if you want. But if you think that having published one of these magazines gives you an automatic in as a content provider to the world of multimedia, you've obviously already made an important first discovery, which is, "Wrong!" It doesn't say anything about that.

But I give him credit for having figured it out in very short order.

So from the standpoint of a software publisher, what do these data highways do in terms of opening up opportunities for things you can't do now?

Well, I think that the main thing they do, at least potentially, is that they add the potential of a human element. The ability to do a lot of these kinds of things not in isolation but as part of a community.

I don't know if it's out, but [AOL president] Steve Case showed me a Kid Pix-like program that they were doing in which multiple kids could work at the same time on the same page. And there's this Neverwinter Nights fantasy roleplaying game that is apparently a huge success on America Online. I think Steve said it was the single most-used area in the whole thing.

An awful lot of this stuff, especially early learning stuff, is used by kids whenever possible in groups. They like to do it in groups of five or six, not just in schools but at home too. I can see those becoming potentially very cool groups. Especially once you get past the keyboard, which is a very big problem for kids, and Apple has helped by starting to build microphones into every machine.

Once you essentially have that superhighway running into the machine, where you can play the game also as a party line, where you can have the players playing with one another, not necessarily competitively but sometimes competitively, and talking simultaneously, you've created an incredibly robust and rich environment in a way that is not in isolation.

It's way beyond pen pals.

Yeah. That's not pen pals, that's real. ■

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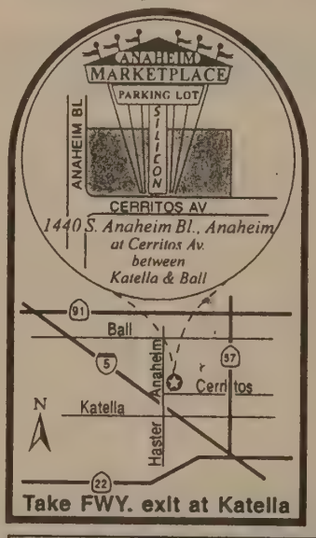

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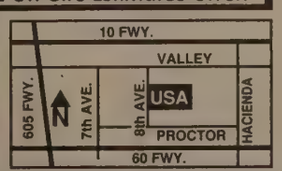

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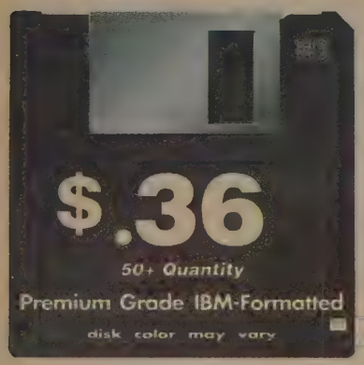

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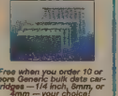

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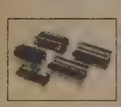

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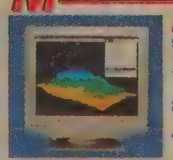

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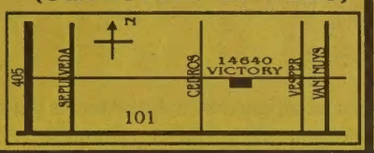

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Continued from page 159

SCSI II board. As such, for most people, playback-time will depend on available RAM and the size of the animation.

The 35-page manual is well written and informative. It's about time the Amiga got something like this! (Terra Nova Development, PO Box 2202, Ventura, CA 93002. 805/652-0531)

PC HARDWARE REVIEW

VL-BUS SUPER WINSTATION 66

Manufactured By: Comtrade
List Price: $2345
Reviewed By: John Wolcott

If you've been looking for a "killer" personal computer, here it is. The Super WinStation 66 is among the fastest personal computers available. Outfitted with all of the tricks that will make the Windows environment perform, this computer is designed to impress.

If you're just a casual computer user working in simple word processor or a greeting card program, this is not the system for you. Many systems are available with slower processor speeds, standard 16-bit buses, and ordinary graphics capabilities that are much more "bang for the buck." However, when running applications that are very processor intense, such as large spreadsheets, graphical layout software, or specialized business software involving large numerical calculations, a system such as this may be just what you need.

Offered by Comtrade, the Super WinStation 66 features a 486/66 DX2 processor, 256K SRAM cache, 8MB of RAM (expandable to 32MB), 1.2MB 5.25" and 1.44MB floppy drives, and a Conner 340MB 12ms IDE hard drive with a VESA local bus controller. The video card is a 32-bit VESA local bus ThunderPro Graphics Accelerator with 1MB of RAM. The monitor is a 15" CTX-1561 with features that include .28mm pitch, with a 1280 x 1024 resolution. The monitor display is very fast and the resolution is staggering.

Other standard features include an enhanced 101-key keyboard, a high-resolution 400dpi serial mouse and MS-DOS 6.0 and Windows 3.1 preinstalled. The mouse supplied with the system is the only performance drawback I found. I recommend the Logitech mouse that may be purchased with the system for an extra $40. (Comtrade, 15314 East Valley Blvd., City of Industry, CA 91746. 818/961-6688)

PC SOFTWARE REVIEW

KIDKEYS

Designed By: Mary Cron, Katie Fisher
Lead Programmer: Bill Snyder
Published By: Davidson
For: MS-DOS (12MHz 80286 or faster CPU, 640K RAM, VGA graphics, mouse; audio card required)
List Price: $49.95 (lab packs and site licenses available)

The dysfunctional layout of the QWERTY keyboard is one of the greatest barriers between people and computers. This is

particularly true for kids, who are eager to use all kinds of software tools, but frustrated by the need to hunt for the right key. While we are waiting for technology to deliver affordable voice input or direct neural-electronic links, we must all continue to cope with keyboards. A good typing tutor program is one of the most cost-effective investments (of time, not money) that any new computer user can make.

KidKeys is designed for users aged four to eight. The program is based on recent research into how the youngest learners master typing skills. It has been found that kids orient to the keyboard most easily when letter sounds and images are associated with key positions. So the program uses animation, digitized speech, music, and sound effects to reinforce this association. For this age group, an appropriate goal is ten words per minute, achieved most effectively when exercises emphasize accuracy over speed. Unlike many grown-up typing tutor programs, KidKeys never makes you race against the clock.

Keystone, a cartoon dragon, greets you in the Playroom, the program's "main menu," where you can select one of three activities by clicking on the corresponding picture.

Magic Keyboard is an on-screen cartoon version of the QWERTY keyboard without the top row of number keys or those potentially confusing punctuation marks. This will be disconcerting to traditional typing instructors, since the right-hand pinky is supposed to rest on the hateful semicolon key. Standard keyboards were designed for grown-up sized fingers. "Young children," says the manual, "are not expected to achieve constant or accurate hand position."

Dragon Tunes is a set of activities that turns the keyboard into a three-octave musical instrument. You can simply explore the key-sounds, play the Alphabet Song, to learn to type all the letters in sequence, or play one of twenty-six popular children's songs by typing a series of letters.

Monster Rescue is a game that challenges you to free four trapped creatures by typing the correct sequence of letters. There are three levels of difficulty.

The program is installed from compressed files on two high-density 3.5" disks. It requires about 6MB of hard disk space, of which over 2MB is sound files. There is a handy Uninstall utility; just the sort of thoughtful touch we have learned to expect from Davidson. Most home computer users these days are constantly installing and deleting programs, in a desperate struggle to fit too many neat applications into too little hard disk space. The illustrated 22-page manual includes suggestions for parents and teachers. (Davidson and Associates, Inc., PO Box 2961, Torrance CA 90509. Customer support: 1-800-556-6141. Sales: 1-800-545-7677)

Graphics and Animation: 8
Sound: 9
User Interface: 7
Overall Value: 8

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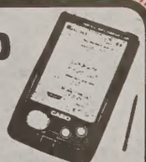

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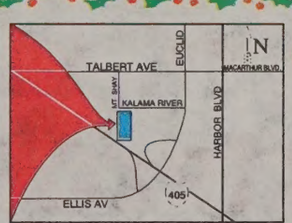

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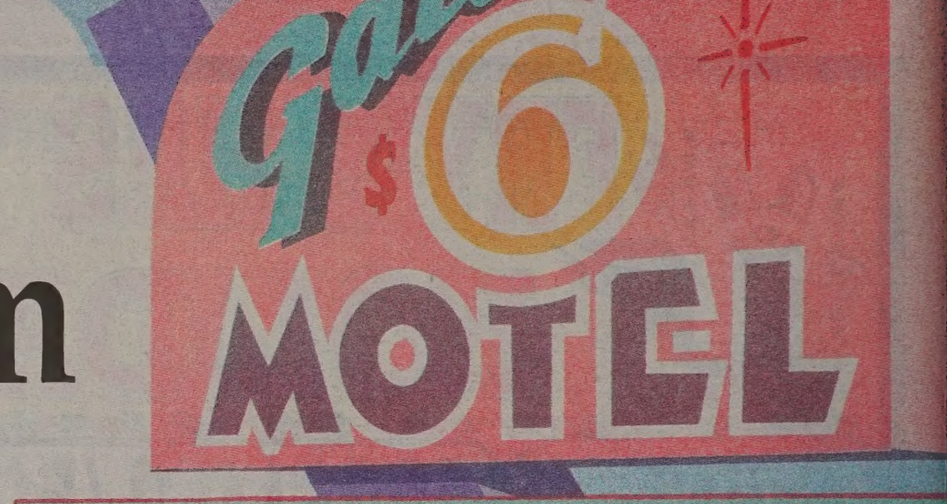

Sooner or later, you'll get an "Out of Memory" message. Whether you have 1 megabyte or 16.

TSRs and network utilities need memory right where your programs need it, too. It's called 'lower' or 'conventional' memory.

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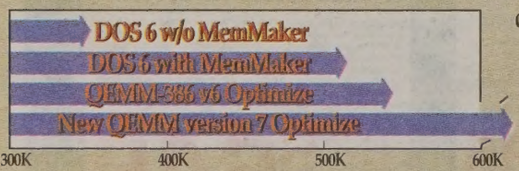

We tested DOS with and without MemMaker and with QEMM 6 and our new QEMM 7 runs away from all of them. See details of test conditions below.

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Managing your memory well is the best way to assure your work won't go to waste.

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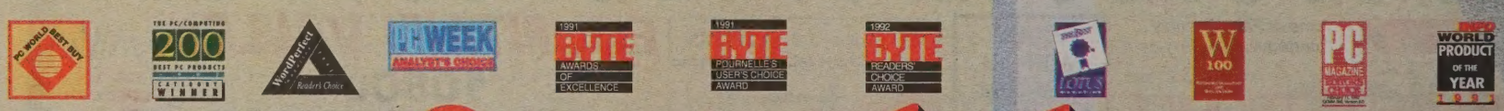

How we got the chart numbers: CPU—486/33 ALR Power/business VESA machine equipped with 16 megs of RAM and running MS-DOS 6. Comparisons were done using the following memory managers: QEMM 7, QEMM 6.02, MS-DOS 6 MemMaker. In addition to the driver (or drivers) required by each memory manager, the following drivers, DOS resources and programs were loaded for all comparisons: in the CONFIG.SYS file: SETVER.EXE, DOS=HIGH, FILES=20, BUFFERS=10, STACKS=0,0. MVSOUND.SYS, SNDBK12.SYS, SLCD.SYS, DOS SHELL=statement, in the AUTOEXEC.BAT file: VSAFE, MSCDEX, UNDELETE, LSL.COM, NE2000.COM, IPXODI.COM, NETX OR EMSNETX, MOUSE.COM, SMARTDRV.COM, PRTSCP.COM.

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